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EVALUATION OF THE BRIEF PSYCHOLOGICAL BATTERY FOR CLINICAL USE

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1971

EVALUATION OF THE BRIEF PSYCHOLOGICAL BATTERY

FOR CLINICAL USE

APPROVED BY

Dissertation Committee

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NATURE OF THE PROBLEM

Introduction

Psychological evaluation is an important element in clinical and counseling psychology. It is a preliminary step in every therapeutic setting that is often taken for granted or a judgment that is made informally. The evaluation usually consists of a measure of intelligence coupled with a judgment of the behavioral characteristics of the subject. This evaluation is also termed diagnosis. Diagnosis is basically a medical term which historically has been associated with the medical model of mental health (Thorne, 1955). There is associated with the word in that context an element of disease of the mind. Diagnosis is defined as a verbal description of a personality (Rapaport, 1968). The psychologist evaluates the client by various means and from the data gathered forms a profile of him. The method of presenting the profile depends on the clinician's personality theory. It is not essentially bound to the medical model. This description of personality can be couched in terms which fit any psychological model. Diagnosis is a part of every counseling theory. It is within this broader framework that this study has been undertaken.

Psychological Evaluation including diagnosis is a function performed by psychologists in several roles. The community mental health clinician is asked to evaluate a client and judge his competency to function in society. Psychiatrists in private practice make evaluations in order to offer the prognosis. Mental hospital psychologists screen the patients upon entering to categorize them and predict behavior. Screening is used in the military services to predict possible defiant behavior. Such centers as vocational rehabilitation hospitals and speech and hearing clinics ask of the psychologist a profile of an individual which will help place him in a suitable environment.

Diagnosis as used in the examples given is a screening process, that is, a process completed in the initial stages of contact with the individual. It is a necessary constitutent of the personality description from which judgments are made and behavior is predicted (Rapaport, 1968). The main purpose of the diagnostic judgment is threefold: Etiology, prognosis, and selection of therapy (Zubin, 1967). It is because these judgments must be made that psychological evaluation will always be necessary. Etiology is a study of the background and development of a person's life style. From this knowledge, predictions and judgments are made. Prognosis is the prediction of the possible outcome of a treatment of a patient, in medical terms. It is a prediction of behavior given certain intervening variables are present. The selection of therapy depends upon the fitting of the

client's needs to the best possible mode of filling these needs (Thorne, 1955). The clinician must make a judgment what these needs are and be able to predict the client's future behavior and reactions. The role of diagnosis is to furnish the description of the individual to predict his behavior in order to best fit the therapy to the person. In all three uses of diagnosis, for etiology, prognosis, and selection of therapy, there is an element of description, both of intelligence and of behavior. There is also the factor of prediction of behavior. It is to these elements, description and prediction, that this study has been directed. A screening device has been tested for its usefulness in diagnosis.

How is a diagnosis traditionally derived at? Thorne (1955) lists the five major approaches to the study of personality: taking in detail the life history of the client, direct observation by professional people who rate the client on a behavior scale, introspection which is individual therapy over many sessions, using objective tests, using projective test methods. The life history, direct observation and introspection methods utilize almost exclusively clinical judgment. Objective and projective testing introduce psychological tools which are meant to aid the diagnosis.

Are tests necessary or useful? This is a question which has been debated for some time (Zubin, Eron and Schumar, 1965). Paul Meehl (1954) challenged the accuracy of the clinical judgment in

his work which heightened the controversy. He maintained through his several studies that actuarial predictions were as accurate or more so than clinical ones. Fiske and Pearson (1970) in their review of personality measurement literature point out that the argument continues to occupy theoreticians. Tallent (1965) describes the positions on this question as if on a continuum. On one end of the scale is the academic scientist who insists on rigorous objectivity and quantification. On the other end is the psychiatrist who makes his judgments solely on anecdotal knowledge gained in an interview. He feels that the truth is somewhere between. Beckett (1967) conducted a study on protocols formed from anecdotal knowledge gotten from interviews. He found that they were accurate in predicting behavior only fifty percent of the time. He urged the use of tests in clinical assessment. He concluded that clinical judgments by themselves are essentially ideographic and nonexplicit. Sawyer (1966) reviewed the evidence over the relative merits of clinical judgments and statistical methods for predicting specific criteria. He noted the diversity of procedures for obtaining measurements before predictions are made. He decided in favor of the use of objective measurement. It is at least defensible that tests do assist in accuracy of prediction.

Rapaport (1968) adds another reason for using tests in diagnosis. These objective measures help to remove the bias of the individual clinician in the judgment. The influence of this bias which

must be reckoned with even in objective testing is lessened with these tests.

Diagnosis is a necessary part of the clinician's task. This study intended to provide a battery which will facilitate that work. The time element is a factor which must be taken into consideration in diagnosis. Taking life histories is a lengthy process, particularly when the client is mentally disturbed. Behavioral observation means studying the person steadily over a period of time. Introspection takes many clinical hours. Many test batteries take hours to administer and interpret. For example, Rapaport (1968) did extensive tests and "welded a battery of tests into a single instrument". The battery consists of: the Wechsler Bellevue Adult Intelligence Scale, part of the Babcock Deterioration Test, the Sorting Test, The Rorschach Test, the Thematic Apperception Test, and the Word Association Test. This is a formidable but time consuming array. Hobbs (1964), speaking of the diversification of roles the psychologist assumes, points out the necessity of the economical use of manpower hours. This study attends to this important element of time in the clinical world.

In view of the necessity of diagnosis, the usefulness of tests for evaluations, and the need for saving work time, A. Isham of Lubbock, Texas, has developed a Brief Psychological Battery (BPB). This battery consists of the Picture Identification Test, an abbrevi-

ated five card Rorschach and the Draw-a-Person test (cf. Appendix A). The Picture Identification Test was developed by Dr. Isham (1963). Max Valentine (1957) developed the five card Rorschach from which this one is taken. The Draw-a-Person test interpretation comes largely from Machover's hypotheses (1953). The BPB is designed to give supplementary insight into a patient's personality (Isham, 1957, p. 790). It is meant to be predictive of the behavior from which the clinician may form a more accurate estimate of prognosis and type of therapy needed. The BPB is not designed to eliminate the use of clinical judgment but to be a tool in assisting it. Its chief value is the quick appraisal of the patient's personality (Isham, 1963). It takes approximately twenty minutes to administer and can be scored easily, often immediately. This time saving factor makes it an appealing diagnostic tool.

This study investigates the proposition that the BPB is a "screening device" from which a client's behavior can be predicted and the level of intelligence ascertained. The focus of the study is on the diagnostic value of the BPB screening patients entering a mental hospital. The study is unique in this field in that no published research has been conducted on the BPB as a whole unit. The intention of the study is to provide the objective data which can validate the BPB as a battery predictive of behavior and descriptive of intelligence, in other words, as a diagnostic tool.

STATEMENT OF THE PROBLEM

This study investigates the extent that the Brief Psychological Battery used as a screening devise with white patients recently admitted to a mental hospital offers a profile of the patient consisting of a measure of intelligence expressed as an IQ score which correlates positively and significantly with an IQ score obtained from the Goodenough-Harris Drawing Test and predicts the behavior of the patient as measured by the items of the Brief Psychiatric Rating Scale (Appendix B). The study intends to demonstrate the usefulness of the BPB as a valuable diagnostic assessment tool as well as an economical use of patient's and clinician's time.

Research Hypotheses

1. The IQ scores obtained from the Picture Identification Test correlates positively and significantly at the .01 level with IQ scores obtained from the Goodenough-Harris Drawing Test.

2. The personality profile obtained from the IQ score of the Picture Identification Test plus the data obtained from the Abbreviated Rorschach Test and the Draw-a-Person Test expressed on the 18 scales of the Brief Psychiatric Rating Scale correlates positively and significantly with the behavior of the patients as measured by the observations of their behavior on the items of the Brief Psychiatric Rating Scale.

3. Knowledge of Intelligence as expressed by the IQ scores of the Picture Identification Test is a variable which increases the accuracy of the prediction as indicated in a higher correlation of behavior over the use of the data from the Abbreviated Rorschach and the Draw-a-Person tests alone.

4. There will be no significant difference at the .05 level between the results obtained from male patients and that of female patients.

5. The actual time of administering the Brief Psychological Battery will be 30 minutes or less.

Definition of Terms

Screening refers to an interview of a patient made within ten days of entering the hospital for the purpose of diagnosis.

Profile is a concise sketch of the personality of a subject.

Behavior is a person's mode of conducting himself in a social setting, and observable manifestations of his emotional, cognitive and motoric processes.

Intelligence is the ability to undertake activities that are characterized by complexity, abstractness, adaptiveness to a goal, and social value.

Personality is the dynamic organization within the individual of those psychological systems that determine his unique adjustment

to his environment (Allport, 1968).

Diagnosis is the verbal and/or written description of a personality.

Limitations of the Study

The study is being conducted with patients at a mental hospital. This is a population where diagnosis and prediction of behavior is very important. However, the choice of this population does limit the generalization of the conclusions to other populations, e.g. normals. The selection of the sample further limits the strength of generalizations. Only Caucasions will be selected which narrows the application of the results. Further selectivity will exclude organic brain damage and alchoholics.

A specific behavioral criterion needed to be selected. The Brief Psychiatric Rating Scale was chosen with its 18 scales. Thus, the observation of behavior and the data about behavior is focused on these 18 concepts. This choice naturally excludes other possible observations.

REVIEW OF LITERATURE

Brief Batteries

Research on psychological evaluation is in Beckett's terms, "pathetically inadequate" (1967). He points out that the method of measuring intelligence and assessing behavior variables has been a part of the clinical tradition. Yet the research is limited and primitive. He thinks that the use of computers in diagnosis will make a great difference in the sophistication of studies. The discussion of the literature will begin with the type of clinical prediction in this study; it will them go to research with brief batteries, including short intelligence tests and personality assessors; it will conclude with research on the BPB itself.

There have been recent articles which defend the use of diagnostic predictions. Sines (1970) brought the clinical versus actuaral controversy up to date, citing the issues and criticizing many of the studies including Sawyer's (1966) article. He lists the purposes of clinical prediction as following: to ascertain if the client is a candidate for further personal attention, to gain a general description of behavior, to predict some specific attribute such as suicidal tendencies, to assign a diagnostic category, to predict if the client will respond to treatment. He then discusses the criteria to be used in the prediction of behavior. He maintains there is a need to define what he

wants to predict in specific behavioral terms. Holt (1970) felt it necessary to justify the very existence of diagnostic prediction. For him there was much to criticize in the studies to date. He set the following criteria for studies predictive of behavior. There should be a careful analysis of what is to be predicted. The situational and intrapersonal intervening variables should be well defined and controlled. The measuring instruments must be appropriate. The scores and statistics must be exhaustively analyzed. Chassan (1970) says a serious defect in contemporary research methodology is the apparent lack of consideration of process. He objects to the uncritical acceptance of scales, and statistical data without inquiring into the dynamics involved. This study attempts to adhere to the guidelines suggested by Sines, Holt and Chassan.

Batteries of intelligence and personality assessment do exist. However, the time required to administer and score the traditional tests is often disproportionate to the demands on the clinician's time. Hobbs (1964) makes this point in an article about the "Third Revolution". He quotes George Albee's thesis. The number of trained people is limited. The demands on the psychologist are multiplying, yet the resources are also limited. The present manner of offering diagnostic services consumes too much manpower and time. Rapaport (1968) developed an extensive and exhaustive battery. His results are very thorough. However, the time consumed in the process is almost

prohibitive. Hardesty and Jones (1968) conducted a three day assessment on each subject, who was a candidate for management personnel. The results were not conclusive. They surmised that the small differentiation between subjects they were able to make did not seem to warrent the time spent in the evaluation. In terms of clinical manpower, it was time lost.

There seems to be a necessity for brief instruments to facilitate diagnosis from the reaction of psychologists. However, Levy (1968) challenges the idea of saving time as a basic assumption. He is referring specifically to the use of short forms of the WAIS. He says that the accuracy of prediction must not be sacrificed merely to save time. There are two extremes. One position insists on maximum validity, the other is not to give the test at all. A compromise must be made between economy of time and effort and accuracy of prediction. This study will attempt to validate an instrument which is brief and accurate.

Part of the BPB is the Picture Identification Test of intelligence developed by Dr. Isham (1963). This is not the only brief intelligence test developed. Some tests have been developed from the Wechsler Adult Scale of Intelligence (WAIS). Others have been devised which are not derivatives of the Wechsler Scale but which are correlated with it. The first consideration will be the derivatives of the WAIS.

Silverstein (1970) analyzed all possible combinations of short forms of the WAIS consisting of 2, 3, 4 and 5 subtests. He took into account the interreliability of each subtest in relation to the whole WAIS. He derived a formula which took into account this factor and gave a chart which demonstrated the best correlation of all the number of tests with the whole WAIS. The highest in each category follows. For two tests the Vocabulary plus Block Design Tests correlated .908 with the whole WAIS. Vocabulary, Block Design and Information subtests correlated .936 with the whole WAIS. Information, Vocabulary, Block Design and Digit Span correlated .945 with the whole WAIS. And for five subtests - Information, Vocabulary, Block Design, Digit Span and Picture Completion - the correlation was .955 with the whole WAIS.

Feldman (1968) conducted a study on the restricted range of intelligence found in the college population. He used shorter forms of the WAIS and found that the Doppelt form, Arithmetic, Vocabulary, Block Design and Picture Arrangement subtests correlated .79 with the WAIS Full Scale IQ. The short form pentad of Information, Similarities, Digit Span, Vocabulary and Block Design subtests correlated .78 with the Full Scale WAIS IQ.

Levy (1968) reviewed the brief IQ tests which are basically short forms of the WAIS or WISC. He challenged the basic descriptions of short forms of tests. He maintains that searches for abbre-

viated forms of the Wechsler test are based on assumptions untenable or at the least doubtful. These are that subtests are equally reliable, take equal time to administer and score, that an independent subtest will behave like a subtest in a full form, that shortening a test necessarily reduces validity and reliability. As proof of his accusations, he draws attention to the fact that most studies concerning short forms of Wechsler tests are retrospective studies in which available records of the Full Scale test were rescored for the chosen short form. He deplores the lack of possible replacements for these short form tests. He contended that testing abbreviated short forms of the WAIS has been a self-perpetuating academic problem never challenged. One of the purposes of this study is to provide an alternative to the short forms which would be more economical time wise and yet accurate.

Holmes (1969a) reacted to Levy's challenge. He says that Levy misconstrued the purpose of research on short forms of larger tests such as the WAIS and the Stanford Binet. Clinicians are in the practice of using short cuts to obtain IQ scores, he maintains. The purpose of the research published is to give data from which the psychologist can choose which subtest he will use. He admits there is a part-whole problem when dealing with short forms of longer tests. In a later article Holmes (1969b) grants that this is a flaw which must be reckoned with. He puts the problem in the framework of decision theory. He asks the clinician how much error he can tolerate in

the assessment of intelligence. He gives the amount of error for each test and allows that the use of shorter forms depends on the answer to that question. If great precision is desired, then large forms have a higher confidence level than shorter forms. Holmes concludes from this discussion that short, non-verbal IQ tests are needed. The Picture Identification Test is designed to fulfill this need.

Some brief Intelligence tests have been developed which are not explicit derivatives of longer tests. Bortz and Loy (1970) refined the Shipley-Hartford test as a brief IQ screening device. Their contribution to the test is a pencil and paper test which can be given to a group. They state that it takes approximately twenty minutes to take and is scored easily. They report a high correlation with the WAIS but give no specific statistics.

The Quick Test developed by Ammons and Ammons (1962) has been researched. Ogilvie (1965) demonstrated that the Quick Test measures much the same traits as the WAIS and in fact intelligence defined operationally is the IQ score of the WAIS. He reports that it primarily tests verbal comprehension. The Quick Test correlates .83 with the Vocabulary subtest and .82 with the verbal sections; it correlates .38 with the Performance section and .75 with the full WAIS score. Feldman (1968) found that the Quick Test correlated .67 with the Vocabulary subtest. This was in accord with the author's

findings that the test needed to be adjusted approximately 15 points to correlate with the WAIS. Quattlebaum and White (1969) tested the Quick Test and the Satz-Mogel abbreviation of the WAIS. They found no significant difference between the mean IQ scores. The scores correlated at the .86 level. Pless, Snider, Eaten and Kensley (1965) tested the Quick Test on a sample of children. They found it to be a reliable screening test. The scores from it correlated .86 with scores obtained from the WISC. The Ammons and Ammons' Quick Test has been researched recently and is popular as a short IQ screening device. It has the factor of relying on verbal ability for its results. It also takes at least twenty minutes to complete. This study will attempt to validate the Picture Identification Test which is non-verbal and takes on the average of five minutes to administer.

Ammons and Ammons have developed an IQ test that requires no reading or writing. Allen and Thorton (1954) analyzed this Full Range Picture Vocabulary Test. They found that it correlated .76 with the Stanford Binet, .82 with the WISC, .48 with the WAIS on college population and .86 with a psychiatric population. Rosenburg and Stroud (1966) tested the Peabody Picture Vocabulary test and the Columbia Mental Maturity Scale, two well-known brief intelligence scales. The sample was taken from the Head Start Program in Baltimore. The results showed that these tests can grossly underestimate intelligence of poverty area children. The authors conclude that brief

intelligence scales are especially inaccurate with poverty children. They conclude that there is a need for a brief screening measure that can be demonstrated to be culture fair. This study does not attempt to provide such an instrument since the sample specifically excludes non-white subjects. Keller, Child and Redlich (1947) developed a brief intelligence test which influenced Isham (1963) in the formation of the Picture Identification Test which is being used in this study. Buros (1965) does not list it as still being in use.

In summary, there are brief intelligence tests in existence. Some of them are derivatives of the WAIS and as such carry with them all of the variables which are surrounded with part-whole tests. Other IQ tests have been developed which tap verbal ability primarily. Others are non-verbal. All of them use as the criterion of efficiency a longer standard test such as the Stanford Binet or the WAIS. None of them claim to be able to be taken and scored on the average of five minutes. Preliminary informal testing shows that this is the average time for the Picture Identification Test which will be used in this study.

Brief Personality Tests

Some brief personality tests do exist and are designed for screening purposes. There are both objective and projective tests. The objective tests vary in method and content. Kelm, Callbeck and

Hoffer (1967) have devised a short form of the Hoffer-Osmond Diagnostic Test. The original test consists of 145 cards on which are statements. The testee is to sort the cards into true or false categories. The test is designed to diagnose schizophrenia. There is evidence that supports the validity of the test (Buros, 1965, p. 240). This short form has 17 items from the original test.

Tatro (1968) analyzed Cattel's Objective Analytic Battery. The scores of ratings on incoming mental hospital patients were analyzed on the Trait Factors of Cattel's theory. Tatro found a consistency of personality source traits in the various populations such as schizophrenia, etc. He sees the usefulness of using number profiles identifying constructs such as have been worked out for the MMPI.

Bown and Richek (1967) developed a brief test of personality, the Self-Report Inventory. It was primarily developed for use with college populations studying to be teachers. It consists of 48 items with eight derived categories. Bown says it takes 15 minutes to administer and can be scored easily. It is a verbal test and depends on verbal ability. He chose to use concurrent validity rather than a behavioral criterion in devising it.

Lanyon (1970) developed a Psychological Screening Inventory. This is a brief inventory which was formed from items similar to those on the MMPI. The scales developed in this experimental test are alienation; social non-conformity; discomfort; expression; defen-

siveness. The test requires the ability to read. According to the author, it tends to make the client defensive. The correlations between the scales and variables on other established personality tests is very low.

The above personality tests are objective and self-report. They rely heavily on verbal ability. The section of the Brief Psychological Battery which is used to predict behavior is from the projective type of assessment (Isham, 1963). It is taken from the Rorschach and Draw-a-Person tests. Projective techniques have been the focus of much adverse criticism in recent years. Holt (1970) traces the history of projective techniques in the clinical traditions and makes a positive argument for their use. He says that diagnosis is a part of the clinician's duty which cannot be given up. He gives norms which he feels will enhance the clinical studies (of above). Rapaport (1968) cites some reasons for the apparent decline in the use of projective instruments. Among the reasons are the demands on the clinician's time which make long tests prohibitive and the more diversified role the psychologist is assuming in the world. This study intends to provide a projective instrument that will be an aid, yet not be time consuming.

One section of the behavioral evaluation portion of the BPB is the 5-card Rorschach taken from the whole Rorschach. The Rorschach has been the object of much scrutiny, much of which is not

favorable. Zubin, Eron and Schumer (1965) analyzed the studies that dealt with specific means of interpreting the test. They concluded that many of the studies are subjective and unscientific. Because it depends on interpretive scoring, they tend to dismiss its effectiveness. Yet the Rorschach persists in literature and the reviewers are divided as to its effectiveness. Sundberg (1960) in a review of literature dealing with projective techniques found that there were more articles cited on the Rorschach than on any other test. Mills (1965) reviewed seventeen years of the literature of projective techniques. He found the Rorschach and human figure drawings still the most used, and cited more studies on them than any other test. Both of these are basis for the BPB.

Studies have shown how the Rorschach could be an aid to clinical judgment. Horowitz (1962) studied clinical judgments based on projective tests protocols. He used biographical data as a comparison with biographical data plus test information. He found that the accuracy of the clinician's prediction was improved with access to test information. He did not find clinicians' stereotypes of patients more accurate than laymen's, leading to the conclusion that great expertise may not be necessary for clinical prediction. Fisher (1967) reviewed projective methodologies in the Annual Review of Psychology. He reported on the studies concerning individual items such as Color, Movement, Form, etc. He found the research reached conclusions

which were at odds with one another on the individual signs. He advocates a more general approach to differentiating behavior by the Rorschach. Fiske and Pearson (1970), surveying the literature on personality measurement, looked for a global-rational approach as an effective way of approaching the Rorschach.

There have been projective techniques which attempted to be brief. The Holtzman Ink Blot Process (Fiske and Pearson, 1970) has 45 cards but requires only one response a card. Chambers and Luberman (1965) devised a Picture Identification Test which is scored on the twenty-one needs of Murray's scale. They tested to discriminate among normals, paranoid schizophrenics, drug patients, and anxious neurotics. They found they could discriminate between schizophrenics and normals on 33 or 67 variables used and between the neurotics and drug patients and normals on 4 variables. The schizophrenics differed mainly in needs of autonomy.

There is a study which compares a short form of the Rorschach with the longer version. Cutts (1948) used cards III, IV, VII, VIII and IX in contrast to the whole Rorschach. He correlated profiles from these cards with the whole. For F+, A, MF, P, S, he found no significant difference in interpretation between the two tests. Contamination, confabrication and position responses were not reliably picked up in the six card record. However, the ratio of the main responses were consistent enough to make predictions. It is this type

of statistical data on the Rorschach that this study attempts to validate in behavioral research. Hammer (1969) questions whether from a few cards of the Rorschach predictions can be made. He says he does not know. The present study will be aimed at contributing to this area of knowledge.

Brief Psychological Battery

No published research on the BPB as a whole battery exists. Isham (1970) stated that he has used the test for fourteen years on every patient seen in private psychiatric practice and found it most valuable. The purpose of this study is to provide the data which will validate Isham's experience.

The BPB consists of three subtests: the Picture Identification Test, the 5 card abbreviated Rorschach and the Draw-a-Person. The Picture Identification Test is the subtest measurement for intelligence. Isham (1963) tested it on a series of fifty mental health patients. The retest reliability was 1.0. In a series of twenty-five electroshock treated patients, the scores before and after treatment also correlated 1.0. This demonstrates the excellent reliability of the test even under stressful conditions. Correlations with the Wechsler-Bellevue Intelligence Scale on a series of twenty-five subjects .9+ (Isham, 1963). On a larger series of 100 subjects a correlation of .9+ was also obtained. This compares very favorably with other brief intelligence

tests. This is the only available evidence on the Picture Identification Test as a scientific instrument.

The behavioral judgments made from the BPB are based primarily on the 5 card Rorschach test and the Draw-a-Person. The abridgement of the Rorschach test is based on Valentine's 5 card Rorschach (Isham, 1963). Valentine (1951) first examined profiles of subjects comparing the responses of a smaller amount of cards to the whole ten cards on the same individuals. He chose card I for the neutral gray-black and white space response opportunities. To preserve as much similarity as possible to the whole Rorschach, a black and red card was chosen next, card II. Card VI was chosen to represent the four gray-black plates, IV - VII. The last three cards are multicolored and plate X was selected. In a preliminary study the profile of these cards correlated from .93 to .49 with the whole series. Adding plate VIII raised the correlation between the abridged and the whole scores. The abridged records failed to register only scores seldom seen on the whole record. Valentine then tested cards I, II, VI, VIII, and X on a sample. He found the order of presentation did not vary the results. The mean correlation for the main scoring categories was .93. Some of the main categories were R, W, D, F%, F+%, A%, P, Rt. For less commonly scored categories the results were less satisfactory. The main content was the same in the abridg-

ment as in the whole test. Thus an abridged Rorschach has a reason to be used.

The other portion of the BPB which deals primarily with behavior is the Draw-a-Person Test. This is a projective test which has been researched and continues to be studied. In 1960, this test was the second most frequently used test in clinics and hospitals, the first being the Rorschach (Sundberg, 1960). Fiske and Pearson (1970) in their review of personality measurement studied protocols based on drawings of human figures. They found that artistic merit and personal bias often intrude into the diagnostic interpretation. They also concluded that naive judges and experienced clinicians were in a consensus often about drawing characteristics associated with symptoms even if they did not exist. The effect of level of experience of the judge has been tested elsewhere. Quast and Ireton (1966) tested the Goodenough Draw-a-Man test as a screening device. Student physicians scored the test as to whether a child's problem was psychological or non-psychological. Their results were compared to those of skilled psychologists without knowledge of the Goodenough scores. The results indicated that the Draw-a-Person was sensitive to psychological problems and could be a useful tool for physicians in making the decision for psychological referral. Schaeffer (1964) also tested the influence of professional skill on ability to judge Draw-a-Person profiles. He found no significant relation between total correct DAP identifica-

tions, and the judges' estimated level of correct identifications, the frequency of use of the DAP in clinical evaluation, familiarity with Machover's hypotheses, clinical experience or academic training. Thus it seems that the Draw-a-Person is capable of interpretation by a wide variety of professional personnel. One advantage of the BPB, which this study intends to examine is that the Draw-a-Person, as a part of it, is not limited in its use to extremely sophisticated professionals.

The studies on the interpretation of the Draw-a-Person have mainly concentrated on the validating of Machover's hypotheses (Robach, 1968; Swenson, 1968). Karen Machover (1953) made certain assumptions about drawings. Her main thesis was that the figure drawn represented the subject's view of his own body. From this theory derivative hypotheses followed about factors of the drawing such as size, sex, placement, etc. Robach (1968) reviews research on the Draw-a-Person test from 1949 - 1967. He takes the research on each specific hypothesis. The results are mixed with some supported and some not. He maintains that the studies are often not well designed investigations. The difficulty is in testing specific clinician's insights. He maintains that most of the interpretations are impressionistic and based on a global assessment of the data. The best research results are obtained from this approach. Robach concludes that the ultimate value of the Draw-a-Person might be as a screening

device. The use of specific characteristics for making absolute judgments is not completely supported in the literature.

Swenson (1968) reviewed the literature on the Draw-a-Person from 1957-1966. He came to certain conclusions about the DAP as a clinical tool. He mentioned that artistic ability is a factor which must be kept in mind in interpreting the figures. The clinician may tend to draw unwarranted conclusions from the better drawn figures. He concludes that the value of a particular sign such as size, transparency, etc. is directly related to the reliability of that sign. The reliability of that sign is a function of the amount of drawing of the sign that is available for assessment. Thus if one sign is to be used with expectation of success, the task might need to be extended to include several drawings. He found that global ratings including all of the drawing behavior are consistently reliable and the most useful aspect of the Draw-a-Person. Another conclusion Swenson makes is that the quality of the drawing and the difficulty of drawing a particular part must be taken into account. Research demonstrates that better adjusted individuals produce higher quality drawings and the higher the quality the more conflict signs it can contain. Swenson concludes that there is substantial increase in empirical justification for the use of the Draw-a-Person as a clinical tool. The global judgments are the most useful and add to the clinician's knowledge.

Wanderer (1969) did a study using Machover's hypotheses. He

attempted to discriminate among psychological categories using the Draw-a-Person. He found that he could identify mental defectives significantly but could not distinguish among schizophrenics, neurotics, homosexuals and normals. He questions whether the use of the Draw-a-Person is justified at all. He maintains that clinicians use a high incident of sensational trust positives to justify the continued use. In his opinion, clinicians cling to it because of their own subjective reasons and not objective ones. Hammer (1969) challenged Wanderer's conclusions. He pointed to studies (Swenson, 1968) which showed that one could distinguish among categories in controlled conditions. He criticized the methodology Wanderer used in coming to his conclusions. Hammer does concede that the Draw-a-Person used alone as a diagnosis is not all that reliable. He gives the alternatives of dropping it, ignoring it, or expanding it into a battery of assessment. This study intends to accept Hammer's third alternative and use the Draw-a-Person in conjunction with the abbreviated Rorschach and the Picture Identification Test.

The conclusion to be drawn from the studies in the Draw-a-Person is that it is a valid and reliable tool when global judgments are made. Prediction from one particular sign is not supported. The test is also more effective when used with other diagnostic data. It seems clear that it can be used by professional people with wide background and experience.

DESIGN OF THE STUDY

Sample

The sample was taken from patients who were admitted to the Austin State Hospital, Austin, Texas. The purpose of this study was to demonstrate the effectiveness of the Brief Psychological Battery as a screening devise. Therefore the subjects were those admitted to the hospital who had been there less than ten days. Ten days was chosen as the maximum because the hospital staff itself uses this as the latest time a decision is made on the patient. By then he is assigned to a permanent ward and placed on drugs if they are to be prescribed. The optimum testing date which was adhered to when possible was five days after admittance. This gave the nurses time to observe the behavior of the subject on the ward. They were then able to respond more accurately to the Rating Scale. At the same time, the five days gave a minimum opportunity for the effect of institutionalization on the subject. This is a variable which this study wished to exclude as much as possible.

The age limit is a minimum of 17 years old. This limit was chosen to assure a sample which was at once random and yet uniform.

The patients under 17 years old at Austin State Hospital are processed in a special section and consequently under different conditions.

The N tested was 60 subjects consisting of 30 men and 30 women. The male, female proportion was chosen so that the variable of sex could be tested in the study. The size 30 of each was chosen to insure the use of all applicable statistics.

There was no distinction made between those who were admitted voluntarily and those who are committed to the hospital. This does not seem to be a variable which influenced the outcome of the study. No exclusion was made for those who were being readmitted to a hospital.

The variable of race was taken into account. The cultural differences between whites and non-whites might be a contaminating factor in responding to the Brief Psychological Battery. For that reason only those classified as white by the records of the hospital were used in the study. Another reason for limiting the race was the possibility of prejudice on the part of the nurses rating behavior. This element could influence a decision.

Of the psychological categories used in classifying patients only two are excluded. The position of this study was that behavioral knowledge is valuable and psychiatric labels are not necessary. However, the organic brain damaged patients and alchoholics were excluded. These were dismissed at the advise of psychologists at the Austin State

Hospital. The organic brain damaged patients are incapable of accurately responding to tests, in the opinion of the psychologists. The alchoholics demonstrate a uniform affect and thus would influence adversely the variance. All other psychiatric categories are accepted.

Operational Definitions

Intelligence is defined as the IQ score obtained on the Picture Identification Scale.

The criterion for intelligence is defined as the IQ score obtained from the Goodenough-Harris Drawing Test.

Behavior of the subjects is defined as the scores of ratings on the 18 factors of the Brief Psychiatric Rating Scale made by nurses who observe the behavior. These factors are defined in Appendix B.

Prediction of behavior of the subjects is defined as the scores of ratings on the 18 factors of the brief Psychiatric Rating Scale made from data gathered from the Brief Psychological Battery by the judges.

INSTRUMENTATION

Brief Psychological Battery

This study intends to validate an instrument which is unresearched: the Brief Psychological Battery (Appendix A).

The Picture Identification Test is the measure of intelligence. It consists of a series of twelve pictures of objects. Isham (1970) discovered that this was a suitable number to insure accuracy while still maintaining the feature of brevity. The drawings are not accurately made. Isham (1970) is aware of this and finds the imprecision to be of use diagnostically. It is anticipated that the more intelligent person will recognize the item and be able to describe it accurately. The scoring is done on a 36 point scale with each item having possible scores of 1, 2 or 3 depending on whether the subject can name the item only, name and differentiate or name, differentiate and specify it (Appendix A). Isham has a scale for converting the Picture Identification score into Wechsler-Bellevue IQ scores. Since this is a screening devise, an absolute IQ score is not intended. The scale begins at an IQ score of 80 on the WAIS IQ and its highest score is 130.

The 5 card Rorschach is an adaptation of Valentine's (1953) work. Isham uses cards I, II, III, VIII and X (Appendix A). He alludes to Valentine's study as the basis for the abbreviated test and also for its rationale. The substitution of card III for card IV is based on the particular diagnostic value of that card. The scoring for the Rorschach was developed by Isham who drew on the standard procedures propounded by both Beck and Klopfer. Isham provides the signs which he uses in interpreting the profile (Appendix A). These are selected from the whole array of possible signs to be most useful in a brief battery. He also gives the interpretation of each sign most suitable for analysis. A quick check of these from the data gained from the abbreviated Rorschach provides knowledge of the subject from which behavior can be predicted.

The Draw-a-Person Test is the second element along with the abbreviated Rorschach which is used to provide behavioral data on the subject. One drawing alone is used. Isham (Appendix A) says that this shortens the time for taking the battery. The one drawing provides enough information for use in a screening device. He provides the list of interpretation of various signs to be used in the analysis of the figure. These are based on Machover's (1953) hypotheses and are Isham's judgments on the merit of each sign. The particular sign is not intended to be diagnostic by itself. The whole taken together is to be used for a global interpretation. Isham provides a

list which can quickly be checked. It provides data which gives an overall impression of the personality of the individual.

One of the purposes of this study is to validate Isham's method of analysis of both the abbreviated Rorschach and the Draw-a-Person. This study intends to demonstrate that a knowledge of the subject can be gained using this interpretation model from which behavior can be predicted. The interpretation can be made rapidly since the elements of analysis are spelled out. Another advantage of this method of analysis is the ease with which it can be used. A sophisticated knowledge of the Rorschach is not necessary. Nor is extensive experience or background in the research required to interpret the Draw-a-Person. This widens the possible applications of the Brief Psychological Battery.

Brief Psychiatric Battery

The behavioral criterion is the Brief Psychiatric Rating Scale developed by Overall and Gorham (Appendix B). It is a symptom construct rating scale intended for use by qualified professionals. It was originally designed as a rapid assessment technique particularly suited for evaluation of patient change in psychiatric drug research (Overall and Gorham, 1962). However, its use has been extended to other areas. The scale has been revised since then and Appendix B represents the most recent revision taken out of a manuscript for a forth-

coming book authored by Overall. It is used for description and measurement of behavior. The scale consists of eighteen descriptive traits. The professional person rates the subject on a seven point scale based on his observations of the subject in an interview or on a ward. The eighteen symptom traits were derived from factor analyses of several large sets of symptom descriptive terms, principally from Lorr's Inpatient Multidimensional Psychiatric Scale (1963). They are clearly defined in the Appendix B.

Overall, Hollister and Dalal (1967) factor analyzed the Brief Psychiatric Rating Scale and developed a four-dimensional conceptual model of phenomenological difference among psychiatric disorders. They are: Thinking Disturbance, Hostile-Suspiciousness, Withdrawal-Retardation, and Anxious Depression. Thus the scale has the advantage of not only providing a behavioral rating profile but also giving an abstracted model from which conclusions can be drawn.

The validity of the scale has been established through internal validity, structural and construct validity of the measurements (Overall and Gorman, 1962). Reliability with one rater is slightly lower than interreliability of two raters.

The Brief Psychiatric Rating Scale was chosen as the behavioral criterion for several reasons. It is well researched and constructed. The statistics bear this out. Since the research has been

extensive, there is an opportunity to collate much data about the subjects. Another reason this scale was chosen was the nature of the eighteen categories. They are phenomenological characteristics observed by the rater. They describe observed behavior in well-defined terms. As such they are not derived from a particular personality theory. Fisher (1967) says that there is no adequate personality theory. Therefore, any description of behavior couched in terms of a particular personality theory has all the limitations of that theory. With the emperical categories, the results can be translated into terms of any personality theory.

The Brief Psychiatric Rating Scale is not scored on psychiatric categories which require abstractive judgments. This fact will allow the results of this study to have wide application. There is evidence that the psychiatric categories are not as useful as was once thought. Tatro (1968) states that the labels describing psychiatric patients have little effect on the nature of the treatment. Professional staff are treating the patients more and more on the nature of their behavior rather than try the category into which they are placed.

Riske and Pearson (1970) say that behavioral scales are more effective descriptions of patients than psychiatric categories since different personalities can be measured by the traits whereas strict categories are labels that often do not describe the whole personality. In their review of assessment literature, the utility of behavioral

samples judged by trained observers was borne out.

Lorr (1961) earlier came to the same conclusion as Fiske and Pearson (1970). He reviewed the literature in the classification of behavioral disorders. His conclusion was that the categories are mutually exclusive and by that fact misleading since personalities are not that rigid. He pleas for a descriptive diagnosis which does not include abstractions of the second order such as schizophrenia.

The adaptability of the information in a descriptive profile has been pointed out. Tallent (1965) discusses the pros and cons of psychological testing. In his analysis of the problem he asks what kind of information is wanted from diagnosis. He says that the answer is not completely clear but questions the traditional method. He maintains that often we get information from tests that we do not need nor can we validly expect from a test.

Zubin, Eron and Schumer (1965) after examining all of the ways of transmitting results from diagnositc interviews conclude that a behavioral description is the most suitable.

Groves and Peterson (1968) tested the effectiveness of projective techniques. They deliberately did not use psychiatric terms or concepts which might be identified with a particular school. They found significant agreement between diagnosticians projective protocols and those of therapists who had seen the patients for several hours. The authors conclude that inferences obtained from projective proto-

cols can be made objective and thus give information by an economical method. Thus from many aspects a description of behavior by phenominological characteristics is useful. The information obtained from the categories on the Brief Psychiatric Rating Scale does not depend on a particular theory, it can be adapted to a wide variety of situations, it provides data for treatment which more and more is the type of knowledge used in hospitals.

Goodenough-Harris Drawing Test

As has been seen above, the Picture Identification Test correlates highly with the Wechsler Adult Intelligence Test. For further strengthening the efficacy of the Picture Identification Test, another criterion was chosen with which to correlate the IQ scores. The Otis Quick Scoring Test was selected. This test is a verbally orientated test and is used in schools. It was considered representative of verbal tests (Buros, 1965). A pilot study was conducted at the Austin State Hospital with newly admitted patients. The results are that most subjects were not capable of taking this test. They were not able to answer the questions, attend to the task, or grasp the meaning of the test. Consequently, no IQ scores could be obtained.

A conclusion from this investigation is that the Picture Identification Test will offer a valuable contribution to obtaining a measure of intelligence since it is non-verbal, very brief and simple to take.

This test then will fill a need which cannot be met by tests such as the Otis Quick Scoring Test.

The Goodenough-Harris Drawing Test was chosen as a criterion for intelligence to give added weight to the Picture Identification Test by providing another criterion of correlation.

Abbreviated Rorschach

The Abbreviated Rorschach subtests of the BPB has been quantified on the dimension of expressive emotionality. The dimension measures the emotionality of the client to the degree he displays it and allows it to enter an interpersonal relationship. This is judged from the determinants of the Rorschach responses. Color (C), Movement (M), and the proportion between the two are the main determinants considered. The rating is made on a seven point scale 0, 1, ..., 6 which runs from not present (0) to extremely severe (6). Overall and Gorman (1962) in their Brief Psychiatric Rating Scale established emotionality on a seven (7) point scale. They used both a positive and a negative expression of the quality. The negative dimension is Blunted Affect. They define it as reduced emotional tone and apparent lack of normal intensity of feeling or involvement (Appendix B). The positive quality is termed Excitement. This refers to the emotional, mental, and psychological aspects of increased activation and heightened reactivity.

The use of the Color determinants as a measure of emotion-

ality was first recognized by Rorschach himself and has persisted through his commentators (Klopfer, 1956). Klopfer, B.; Ainsworth, Klopfer, W. and Holt (1954) state that the more M, the more imagination is being used by the client. He will be prone to fantasy and creativity. According to them, the way that the subject handles color gives an indication of his mode of reacting to an emotional challenge from his environment which taxes his skill in integrating an outside influence with his activity in progress (1954, p. 276). There is a challenge to integrate color into form. The way color is handled indicates the emotional reaction of the subject to the impart of social environment. They maintain that the sum of C is proportional to the degree of overt reactivity to emotional stimuli.

Rapaport, Gill and Schafer (1968) also explain and expand Rorschach's concept of M & C. Movement responses reflect considerable flexibility, versatility, wealth of both associated resources and processes. This is termed by Rorschach as extratensiveness. The proportion of C responses over M indicates the degree of extratensiveness or extraversion. Color deals with affectional expressions and responsiveness, the mode of control of impulses, action, and extraversion tendencies. Dependent on their organization of affects and impulses and their mode of control of these, people have associated processes that allow for dealing with the color impressions in a specific manner characteristic of their affective feelings; control of im-

pulses allows better functioning or no control releases impulses in a violent manner.

Data Collection

The data was collected at the Austin State Hospital, Austin, Texas between the times of September 1, 1970 and June 1, 1971. Permission was obtained from the Research Committee of the State of Texas to conduct this study. They reviewed the proposal and recommended that it be implemented. The superintendent of the Austin State Hospital then accepted the proposal and referred the writer to the psychologists in charge of each of the four units of the hospital which admits patients. Three of the four psychologists agreed to allow their units to participate in the study.

A system of communication was established whereby the secretaries of each participating units notified the coordinator of the project upon intake of a patient who fit the specifications of the sample. Then one of the four judges who were chosen to administer the Brief Psychological Battery went to the hospital to give the test. He began by noting the patient's name, age, sex, hospitalization record and hospital identification number. He then administered the BPB noting the time required to complete the testing. He scored the Picture Identification Test, the Abbreviated Rorschach and the Draw-a-Person. From the data of the Brief Psychological Battery, a rating on the

Brief Psychiatric Rating Scale was made.

The four judges who administered the Brief Psychological Battery to the subjects were psychologists with at least a Masters Degree in Psychology. Three of them were Doctoral candidates in Clinical Psychology at the University of Texas and were counselors at the Counseling Center of the same University. The fourth was a Doctoral Candidate in Counseling Psychology at the University of Texas and also was a counselor at the Counseling Center. They were all versed in administering and scoring the Rorschach and the Draw-a-Person. They were given training in the administration of the Picture Identification Test.

With the aid of the chief psychologist in each division, the nurses and attendants most observant and most experienced in hospital work were chosen to participate in this study as the observers. These professionals are the persons who interact with the patients throughout the day on the wards. They are able to observe the subjects as he varies in mood and to judge his relationships with authorities and his fellow patients. It was the opinion of one of the chief psychologists in charge of one of the hospital units participating in this study that involvement in the study enhanced the patient's care and improved the quality of the service given by the nurses and attendants. The observers, in order to be able to respond to the Brief Psychiatric Rating Scale, needed to become aware of and sen-

sitive to the behavioral variables of the subjects involved.

The nurses and attendants chosen to rate the patients were given instructions in the meaning of each variable on the Brief Psychiatric Rating Scale. After the training was deemed satisfactory by the four judges, these observers were called upon to participate in the study. After a patient who met the requirements of the sample was tested by the judge, the Brief Psychiatric Rating Scale was given to the nurse and attendant. Two observers collaborated on one rating. Before the tenth day of admission, they rated the subject on this Brief Psychiatric Rating Scale from the results of their observation of the subject's behavior.

Some difficulties were encountered in the collection of the data. Many possible subjects were not tested because of a breakdown in communication. The secretary of a unit would phone the coordinator and sometimes not be able to contact him within the time specified by the study. Also the judges administering the Brief Psychological Battery having been notified of available subjects failed often to get to the hospital before ten days. Holidays and vacations compounded the problem.

Treatment of Data

In the present investigation there are 44 variables used. There are 18 variables on the criterion scale of the Brief Psychiatric

Rating Scale plus summed score of all 18. From the BPS, there are scores for P.I., Draw-a-Person, Abbreviated Rorschach, the 18 scaled scores and the summed score from the clinical prediction on the Brief Psychiatric Rating Scale. Sub-samples include the variables of sex, previous hospitalization and age in years.

To investigate the research hypothesis 1, the Pearson r correlation statistic was used (Guilford, 1965). The correlation is assumed to be rectilinear. To say that the correlation is significant is to state that it differs from zero not by chance. The test was made from normative tables already developed (Guilford, 1965).

In investigating hypotheses 2, 3 and 4 plus the factor of age and previous hospitalization, a multilinear regression analysis was used (Guilford, 1965). The score of the P.I. + score of the DAP + Score on Rorschach + the clinical ratings on the BPRS made from the whole BPB are used to predict the scores on the BPRS of the criterion. The correlations were calculated on the total sample. Comparisons were then made for the subsamples based on sex, previous hospitalization and age.

In investigation hypothesis 5, the testing time for the whole sample was averaged and compared to the projected 30 minute time.

CHAPTER IV

RESULTS

The results of the study will be presented as they apply to each of the five research hypotheses. The significance of the results will be fully discussed in Chapter V in the same manner. The findings of each of the 5 hypotheses will be analysed.

Research hypothesis 1 compared the IQ scores obtained from the Picture Identification Test with those obtained from the Good-enough-Harris Draw-a-Person Test. The correlation obtained between the two was .68622 which is significant at the .001 level in a two-tail test. Since the results of this study included both positive and negative correlations, the two-tail test of significance will be used throughout. The mean IQ score obtained on the PIT was 91 with a Standard Deviation of 11. The mean IQ score obtained on the Draw-a-Person was 76 with a standard deviation of 17.

Research Hypothesis 2 compared the personality profile obtained clinically from the Brief Psychological Battery expressed on the Brief Psychiatric Rating Scale with the ratings of the hospital personnel, the criteria ratings. The correlation of the sum of BPB ratings with the sum of the hospital ratings was .5884 which is significant at the .001 level. The mean score on the six point scale

of the Brief Psychiatric Rating Scale for the sum of BPB ratings was 29.83 with a standard deviation of 12.72. The mean of the sum of the hospital ratings was 23.77 with a standard deviation of 15.01. This result reflects an observed tendency that clinical raters tended to score personality factors as being stronger than the hospital observers.

TABLE I

Correlation of each item of the criterion with its corresponding item from the clinical rating.

Somatic Concern	.35334**	Hostility	.47538**
Anxiety	.23293	Suspiciousness	.43607**
Emotional Withdrawal	.18629	Hallucinatory Behavior	.25168*
Conceptual Disorganization	.44288**	Motor Retardation	.41685**
Guilt Feelings	-.07640	Uncooperativeness	.41744**
Tension	.28298	Unusual Thought Content	.24647
Mannerism and Posturing	.33374**	Blunted Affect	.04245
Grandiosity	.37388**	Excitement	.37854**
Depressive Mood	.23424	Disorientation	.47048**

* $p < .05$
** $p < .01$

The correlations between each corresponding item scored from the BPB with that of the criterion are presented in Table 1. Though 13 of the factors correlated significantly at the .05 level with

10 of these significant at the .01 level, none of them are as good predictors as the total score of the BPB is of the total score of the criterion. Overall, Hollister and Dola (1967) identified four higher-order syndrome factors with the components thereof. (Table 2).

TABLE 2

Brief Psychiatric Rating Scale - 4 Major Factors

Thinking Disturbance	Hostile-Suspiciousness
Conceptual Disorganization	Hostility
Hallucinatory Behavior	Suspiciousness
Unusual Thought Content	Uncooperativeness
Withdrawal-Retardation	**Anxious-Depression**
Emotional Withdrawal	Anxiety
Motor Retardation	Guilt Feelings
Blunted Affect	Depressive Mood

The BPB predicted with significance at the .001 level the components of the Hostile-Suspiciousness major factor. The correlations on the components of the Thinking Disturbance factor were significant at the .05 level. The results for the Withdrawal-Retardation factor were mixed. Scores on Motor Retardation correlated significantly at the .01 level whereas the Emotional Withdrawal and Blunted Affect correlation scores were non significant. On the Anxious Depression major factor, the scores from the BPB did not correlate significantly. As a major factor, it seems that this dimension could not be accurately predicted.

Certain individual items scored from the BPB correlate sig-

nificantly with the sum of the ratings obtained from hospital personnel.

TABLE 3

Correlations Significant at .05 Level Between BPB Scored Items and Sum of Criteria Ratings

Somatic Concern	.28570	Suspiciousness	.42710
Anxiety	.40976	Hallucinatory Behavior	.41208
Conceptual Disorganization	.35936	Uncooperativeness	.38225
Tension	.47408	Unusual Thought Content	.31571
Mannerism and Posturing	.31482	Excitement	.36357
Grandiosity	.25129	Disorientation	.37682
Hostility	.42640		

None of these individual items correlated with the total criteria score as highly as the total score from the BPB. However the correlations between the items Anxiety, Tension, Hallucinatory Behavior, and Unusual Thought Content and the sum of the criteria were higher than the correlations of each respective item.

Since the sum of the ratings of the BPB correlated .5884 with the sum of the ratings of the criteria, it might be anticipated that the same sum would correlate significantly with the items. Table 4 substantiates this.

TABLE 4

Correlations Between the Sum of Ratings of the BPB and Individual Items of the Criterion

Somatic Concern	.18127	Hostility	.31597*
Anxiety	.32493**	Suspicisouness	.42406**
Emotional Withdrawal	.33986**	Hallucinatory Behavior	.37536**
Conceptual Disorganization	.50423**	Motor Retardation	.31309*
Guilt Feelings	.06541	Uncooperativeness	.37371**
Tension	.25461*	Unusual Thought Content	.39096**
Mannerisms	.32565**	Blunted Affect	.25704*
Grandiosity	.19972	Excitement	.30269*
Depressive Mood	.38172**	Disorientation	.46686**

*$p < .05$
**$p < .01$

The sum of the clinical ratings of the BPB correlated higher with the sum of ratings of the criteria than any individual item. The correlation with the Conceptual Disorganization item was highly significant as well as Disorientation. These two constructs measure similar characteristics of a patient. The BPB clinical summed score seemed to tap these characteristics.

The Picture Identification Test did not correlate positively and significantly with any section of the criterion. This result is not unexpected. The intellectual measure was not intended to predict be-

havior. Research has shown consistently that the measures of intelligence are not accurate predictors of behavior (Rapaport, 1968). The correlation between the PIT and the summed score of the hospital rating was -.29161 which is significant at the .05 level. The PIT also correlated significantly at the .05 level with Emotional Withdrawal (-.36592), Motor Retardation (-.37859) and Blunted Affect (-.26160). These are the items which are scored in the major factor Withdrawal-Retardation (Table 2). Thus, the PIT correlated negatively with all aspects of this dimension.

The scores of the Draw-a-Person test failed to correlate significantly with any of the ratings of the hospital personnel. Except for the correlation with the PIT, tested in Hypothesis 1, there was no significant intercorrelation with items within the BPB.

The Abbreviated Rorschach correlated with the sum of the criteria as .40808 which is significant at the .01 level. Significant correlations with individual items were: Anxiety (.37747), Conceptual Disorganization (.35464), Mannerisms (.34840), Hostility (.39186), Suspiciousness (.32817), Disorientation (.29462). The items do not fit completely any of the major factors identified by Overall. The Abbreviated Rorschach did correlate higher with Anxiety than the clinical item, Anxiety, or the sum of the clinical ratings did. This one component of the BPB might be the best predictor of anxiety. Another important correlation is the one with the sum of the clinical ra-

tings of the BPB. The correlation was .51991 which is significant at the .001 level.

In summary, the correlation coefficients for the dependent and main independent variables are listed in Table 5.

TABLE 5

Correlation Coefficients of the Main Variables

	Hospital	Clinical	PIT	Draw-a-Person	Abbr. Rorschach
Hosp.		.5884	-.2916	-.2431	.4081
Clinical			-.2577	-.2215	.5199
PIT				.6862	.7842E-01
DAP					.3573E-03
AR					

It is of note that the cognitive predictors, PIT and the DAP correlate very low with the clinical predictors. The Abbreviate Rorschach, a clinical predictor, on the other hand, correlates highly significantly with the sum of the clinical ratings and also with the dependent variables itself.

Research hypothesis 3 predicted that the Picture Identification Test was a variable which increased the predictive capacity of the clinical components of the Brief Psychological Battery, namely the Abbreviated Rorschach and Draw-a-Person. To test this hypothesis an analysis of multiple linear regression was made with the dependent

variable designated the sum of the ratings of the hospital personnel (Σ_H). The independent variables were the sum of the clinical ratings of the BPB (Σ_C), the IQ score on the Picture Identification Test (PIT), the IQ score on the Draw-a-Person (DAP) and the rating on the Abbreviated Rorschach (AR). The Multiple Correlation Coefficient was .6272.

TABLE 6

Analysis of Variance for the Multiple Linear Regression

Source of Variance	D. F.	Sum of Squares	Mean Squares	F Value
Due to Regression	4	5238.23438	1309.55859	8.9356*
Deviation about Regression	55	8060.50000	146.55453	
Total	59	13298.73438		

*$p < .05$

Table 6 demonstrates that at the .05 level, the null hypothesis of zero correlation was rejected. From the results of the analysis of variance, the estimated population multiple correlation coefficient was computed. This coefficient (ρ mult.) = .60. The correlation coefficient for the Σ_C = .588 or .59 with the dependent variable. The comparison of ρ mult. = .60 with Σ_C = .59 indicated that the addition of the PIT, DAP, and AR to the sum of the clinical rating did not statistically improve the predictive value of the BPB. The

sum of the clinical ratings is the best predictor of behavior as measured by the sum of the ratings of hospital personnel (Σ_H). With the regular coefficients computed, the multilinear equation read.

$\Sigma_H = .514\,\Sigma_C - .43$ PIT $- .02$ DAP $+1.63$ AR

Hypothesis 4 projected that there would be no significant difference between the scores for males and those of females. The results demonstrated that the factor of sex had little significant influence on the outcome of the data. The only correlations of significant at the .05 level were with Somatic Concern (-.32757), Anxiety (-.3123), Grandiosity (.25865) and Hostility (-.32011). The variable of previous hospitalization against a new admission was not a factor. The only correlation significant at the .05 level was with Somatic Concern (-.25198). The mean age for the subjects was 38.1500 with a standard deviation of 11.7673.

Hypothesis 5 stated that the time of administering the Brief Psychological Battery would be 30 minutes or less. The results demonstrated that for the sample of 60 the average time taken to administer the BPB was 26.26 minutes. The maximum testing time on any subject was 45 minutes while the minimum testing time was 12 minutes. Thus the hypothesis was supported.

CHAPTER V

DISCUSSION AND CONCLUSIONS

Discussion

The Brief Psychological Battery has been demonstrated statistically to be an instrument useful for a screening devise. The clinicians who gave the test found the technique of administration and scoring easy to learn. This is a large factor in favor of the test since it allows for wider usage. Elementary knowledge of the Rorschach is necessary for a clinician to use this test.

The effect of the test on the subject was important. In a few instances the subject refused to begin or complete the testing but in general, the test was a non-threatening variable. Some of the subjects remembered taking the Rorschach before but it did not seen to affect their performance.

On the items of the Brief Psychiatric Rating Scale both the hospital personnel and the judges tended to score them toward the lower end of the 0...6 scale. That is, there was a tendency to rate a quality as not present or mildly present rather than severe. This might be a dimension of the persons involved which could be defined

as a reluctance to label a person with what could be interpreted as a pathological characteristic. On the other hand, the phenomenon may have been an accurate record of reality.

The results of hypothesis 1 reinforced the use of the Picture Identification Test for finding levels of intelligence expressed as IQ scores. The study was an attempt to establish a significant correlation between the PIT and the Draw-a-Person scored by the Goodenough-Harris norms. That correlation was obtained.

The results of the correlation were influenced by some unanticipated factors. The main one dealt with the Draw-a-Person test. In the BPB, Isham (Appendix A) uses one drawing only. Several of the subjects drew partial figures or figures difficult to recognize as persons. Since one drawing is the norm for the BPB, the first and only figure was scored. Partial or distorted figures have clinical significance in the Brief Psychological Battery (Appendix A) and are important in the interpretation of behavior. However, they score much lower on the IQ scale than what might realistically be estimated as a level of intelligence. For example, a subject might have scored high in IQ on the PIT but because of his mental condition drew only a face as his perception of the reality of a person. The two IQ scores would not have been close. This phenomenon might account for the differences in mean scores of the PIT (91) and Draw-a-Person (76). The scores demonstrated that the PIT score averaged 15 points above the

IQ score obtained from the Draw-a-Person. On a population which is non psychotic, a higher correlation might be anticipated.

One result of this study is an observation on the use of the Draw-a-Person for intellectual evaluation of a psychotic or mentally ill population. From the experience with this sample, the effective use of the test can be questioned. The clinical use of the Draw-a-Person is not in issue and is valuable in the Brief Psychological Battery.

The results of the study substantiates hypothesis 2 that the profile obtained clinically from the Brief Psychological Battery expressed on the Brief Psychiatric Rating Scale correlates significantly with the ratings of the hospital personnel, the criteria. The highest correlation and most significant one was between the sum of the 18 ratings on the BPB (Σ_C) and the sum of the hospital ratings (Σ_H). This result led to the conclusion that the BPB can predict behavior. The most effective prediction came from the overall profile on the subject and not from focusing on one or the other personality characteristics. The literature on brief batteries and clinical predictors consistently come to a similar conclusion; namely that tests predict a whole profile better than items in the profile and that the whole test predicts better than any of its items. Therefore, the most effective use of the BPB is the administration of the whole battery with the interest of gaining a whole profile of the subject from the 18 items

on the Brief Psychiatric Rating Scale

The results of the item for item correlations demonstrated the psychological areas which the BPB predicted best and least. The correlations in the Hostile-Suspiciousness major factor were highly significant. The study seems to indicate that the BPB is highly sensitive in this area. The major indications on the BPB which would lead to identifying this syndrome were the reported manner of responding to the Abbreviated Rorschach as well as the nature of his responses. The amount of evasiveness and avoidance seen on the Draw-a-Person were factors which weighed on the clinical judgment in this area.

The individual items in the thinking - Disturbance area correlated significantly. The BPB could relate to this syndrome in many ways. The Abbreviated Rorschach was particularly sensitive to this area since unusual answers are specifically scored. The responses to the PIT would sometimes not be related in any visible way to the pictures. The Draw-a-Person would be deviant from the normal drawings.

The BPB in the individual items was not able to identify significantly the Anxious-Depression syndrome. Since much of clinical psychology focuses on anxiety and depression is often the presenting symptom, this result was contrary to expectations. It would seem to follow that the BPB through the Abbreviated Rorschach and the Draw-a-Person in particular could identify this factor. In addition

to the lack of significant correlation in the Anxiety-Depression, only one item of the Withdrawal-Retardation factor correlated significantly. This was the Motor Retardation. The judgment on this item was made mainly from two characteristics of the test, namely the level of intelligence gained from the PIT and the amount of time taken to Draw-a-Person. If a subject scored high on the PIT and was visibly slow in drawing the person, then it was judged emotional factors were blocking his performance. On the other hand, if the IQ score on the PIT was low and a drawing was made slowly, then motor retardation was scored high.

The items of the Anxious-Depression syndrome, namely, Anxiety, Guilt Feelings, Depressive Mood plus items Emotional Withdrawal and Blunted Affect were all non-significant. These psychological constructs might be scored towards the passive end on an active-passive continuum of behavior. This suggests that the BPB was a better predictor when the subject was more active and demonstrative in the interpersonal relationship, that is, when he revealed more of his thought content and was more aggressive. Another variable affecting this result might have been the attitude and training of the hospital raters. The BPB might have identified these characteristics but the raters did not since, behaviorally, inactivity and depression, for example, are often difficult to distinguish.

Table 3 lists significant correlations of the items of the

clinical ratings with the Σ_H rating. The results reinforced the fact that the best predictor of behavior is Σ_c since none of the individual items were equal to or greater than that correlation. It is of note that the constructs Anxiety, Tension, Hallucinating Behavior and Unusual Thought Content, correlated much higher here than with their own corresponding construct. However, since the Σ_c had such a high correlation with Σ_H, prediction of Σ_H from a single item would not be recommended where the Σ_c is available.

The sum of the clinical ratings of the BPB (Σ_c) correlated significantly with 15 out of the 18 individual items of the criterion. (Table 4). The Σ_c correlated higher and significantly with the major factor Anxious-Depression more than the individual items in the syndrome (Table 2). This fact suggests that this construct might best be judged from the overall profile of the test rather than the items involved. The idea that the whole test is the best predictor is reinforced in this analysis of the Anxious-Depression major syndrome. Also reinforced is the sensitivity of the BPB to the Thinking-Disturbance factor. Not only did the items measure it but the Σ_c correlated higher in each case than the corresponding items.

The Picture Identification Test correlated negatively and significantly with the items of the Withdrawal-Retardation major syndrome (Table 2). The correlations were not large enough to draw definite conclusions. The results do suggest that the more intelligent the sub-

ject was, the more alert and active emotionally and physically he was. Since this is the observation of clinicians (Rapaport, 1968), the results are an indirect support of the validity of the Picture Identification Test.

The Draw-a-Person test by itself was found to have no significant clinical value for predicting behavior. Within the BPB it is of great importance in making the clinical judgment on a subject. By itself, the test did not produce any statistically significant data. This result is a confirmation of the literature on the Draw-a-Person which maintains that its value is its use in conjunction with other tests.

Of the three components of the BPB, the Picture Identification Test, the Draw-a-Person, and the Abbreviated Rorschach, the latter was the best single clinical predictor. The AR correlated highly significantly with the Σ_H. The content and scoring of the AR is totally clinical and this factor may have accounted for the high predictive value. It was still not as good a predictor as Σ_C but the correlation between AR and Σ_C was significant. The scores on the AR reflected emotional content which reinforces the findings of the study that clinical ratings are better predictors of behavior than intellectual ones such as PIT and DAP.

Since AR correlated the highest with the single item Anxiety, it could be considered the best measure of this construct. The scores on the AR measured emotionality yet failed to correlate significantly

and negatively with the major factor Withdrawal-Retardation as might have been expected. This suggests that the scores might be better taken as a measure of anxiety than of emotionality in general.

As stated research hypothesis 3 was not substantiated by this study. The addition of the Picture Identification Test, the Draw-a-Person and the Abbreviated Rorschach did not statistically improve the predictive ability of the clinical rating formed from the BPB.

This result does not lessen appreciably the value of the BPB as a clinical tool. The correlation Σ_H with Σ_C = .5884 has been established. The components of the BPB, the PIT, DAP and AR, all entered into the clinical judgment from which the prediction had been made. For example, when a lower IQ is scored on the PIT for a subject, a primitive drawing on the DAP might mean lower insight and perception. However with a high IQ score from the PIT a primitive drawing might more accurately be interpreted as evasiveness steming from anxiety. A high IQ score on the PIT with a large number of responses on the AR might be interpreted as indicating a highly imaginative and emotional person. The amount of disorientation would be judged from the responses and the nature of the drawing on the DAP. So for each subject, the IQ score from the PIT, the clinical judgments from the DAP and the AR were all integrated to produce the scores on the 18 items of the Brief Psychiatric Battery.

Hypothesis 4 was supported by the study. The variables

sex and record of hospitalization were considered. Men and those who were previously hospitalized seemed to have less somatic concern, that is preoccupation with physical health or fear of physical illness. This lack of concern for men might have been a reflection of society's expectation of the male role. In particular in Texas, the role of the strong male who shrugs off sickness is fostered.

The lack of somatic concern by those previously hospitalized might have been a function of their acceptance of mental illness or medication!

As anticipated in hypothesis 5, the average time taken to administer the Brief Psychological Battery was 26.26 minutes. One of the major assets of the BPB was the brief time needed to give the test. The patients were at ease when they knew that the session would be brief. The testors were relaxed because they felt that they were not anticipating a long session. In other words, rapport was fostered by the time element. The other big factor in favor of the BPB was the conservation of the psychologist's time. In a brief period, he was able to obtain data enabling him to predict certain behavior.

In the administering of the test, it was observed that the major variable which determined the length of time was the Abbreviated Rorschach while the number of responses on the Rorschach governed the larger portion of the testing time.

Conclusions

Results of this study verified the fact that the Brief Psychological Battery is an instrument from which behavior can be predicted with a degree of certainty and confidence. The most effective use of the BPB is as a screening devise in giving a global profile of a client. When individual and specific characteristics are predicted, the prediction is done so with less confidence. Since the purpose of the BPB was to be a screening instrument, that aspect has been substantiated.

One feature which makes the BPB an attractive addition to the clinician's tools is the brevity of the battery. This was verified in the study. It proved to be brief in administration, scoring and interpretation time.

The intellectual components of the BPB, the Picture Identification Test, the Draw-a-Person as and IQ score correlated significantly adding support to the validity of the PIT. By themselves, the two subtests were not good predictors of behavior. This result was consistent with available data on intelligence tests and was anticipated. On the other hand, the Abbreviated Rorschach measuring emotionality, was found to be a strong predictor of certain behavior and the summed score of the 18 constructs. The Draw-a-Person was found to be of doubtful use in measuring IQ with the population used in this study.

The BPB seemed to be particularly sensitive to Hostile-Suspiciousness dimensions and also to Thinking-Disturbance concepts. It appeared that the more aggressive and self revealing the subject was the better the clinician was to predict behavior. Anxiety, depression, emotional withdrawal were constructs to which the BPB was less sensitive.

The study showed that the BPB was equally effective with men and women. The variable of hospitalization did not have any bearing on the results. The mean age of the subjects was 38. The BPB was valid regardless of the age.

There were certain limitations of the study. The criterion for prediction was scored on 18 variables thus limiting the results to those constructs. The sample was taken from incoming patients to a mental hospital. By this fact the generalization from the study is limited.

The addition of the PIT, DAP and the AR to the Σ_c added nothing to the predictive value of the instrument. Thus, a direct administration, scoring and interpretation of the BPB and a total score recorded on the 18 variables of the Brief Psychiatric Rating Scale seems to be the most effective use of the test.

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APPENDIX A

BRIEF PSYCHOLOGICAL BATTERY

Purpose

This brief psychological battery has been developed for use by psychiatrists in conjunction with psychiatric interviewing. It requires only twenty minutes to administer and score while often yielding useful information about intelligence and personality. This battery is intended to supplement the psychiatric interview much as laboratory studies supplement a medical examination, and with the same limitations. Obviously supplementary findings require to be interpreted by an experienced and discriminating professional who understands the limitations and pitfalls of the tests, usually learned after considerable experience in their use. The chief value of this battery lies in the quick appraisal of the patient's personality. Even though this expectation is not fulfilled in all cases, results often provide a valuable supplement to the psychiatric examination.

The Battery

The battery consists of three items. The first is the Picture Identification Test designed to give an estimate of intelligence. The second is the Valentine five card Rorschach which furnishes information about personality structure and dynamics. The third item, the Draw-A-Person Test, is a standard psychological procedure which is nicely suitable for brief testing, and which yields important informa-

tion about personality. One may add additional items if he desires and has the time. However, the basic three-item battery has the virtue of being genuinely brief, and together with the psychiatric interview provides about as much information as one needs. If one desires more psychological information than the brief battery affords, it is wise to refer the patient to a clinical psychologist for complete examination.

The Draw-A-Person and the Ink Blot Tests are both useful with children. With the Picture Identification Test one cannot use the conversion scale for I. Q. estimation for children under 12, but one can often obtain a good idea of general intelligence in those as young as 6, especially if they are bright or superior.

PICTURE IDENTIFICATION TEST

This test is designed as part of a brief battery and should be used in this context, although it has good independent reliability and validity.

The principle of the test is simple. Each object on the test card can be identified at three intellectual levels: naming, differentiation, and specification. More intelligent people will specify the object while less intelligent people will name a general category. Thus, the person in the upper left-hand corner may be called an Egyptian pharoah, an Egyptian or Roman soldier, or merely a lady or person. Likewise for all other items as described on the scoring sheet.

Administration

The subject is given the test card and asked to name the objects as accurately as he can. He may proceed in any order he chooses. It is important that he be encouraged or helped to do his best. For example, if to the first item he responds, "It is a person," one should ask, "What kind of a person?" If he says, "This is a building," one should ask, "What kind of a building?" Such help is offered until the administrator is sure the subject does his best and could not be more specific. Many people, for example, will say "stars" to the dipper item, but will answer "The dipper" when asked, "Which stars?" On the other hand, need for too much coaching would

indicate lack of independence and originality in the subject.

There are no time limits on this test, but 3 or 4 minutes is usual.

Scoring

Scoring is done on the scoring sheet and is simple and self-explanatory. Occasionally a response of a borderline type is encountered which should be scored according to the administrator's judgment. Wrong responses are not counted. They show poor conception and keep the score down.

Analysis

Scores are totaled at the bottom of the columns and added to give the final score which is then converted to an estimated I. Q. on the Rough Scale. The estimated I. Q. may be somewhat raised or lowered according to allowances for age and education. It should be remembered that high scores are generally more reliable than low ones.

Reliability and Validity

In a series of 50 patients the retest reliability was 1. In a series of 25 electroshock treated patients scores before and after treatment also correlated 1, showing that this test is reliable. The score is little affected by emotional disturbance, a characteristic

which makes the test exceptionally reliable.

Correlation with the Wechsler-Bellevue intelligence scale on a preliminary series of 25 subjects was .9+, which compares well with other abbreviated intelligence tests. A larger series of 100 subjects is currently being obtained with a correlation of .9+ on the first 25.

ABBREVIATED RORSCHACH TEST

There appears to be no serious objection to a psychiatrist using the Rorschach cards for brief testing provided he acquires sufficient skill in their use. After all, it was a psychiatrist who developed these cards. A 5 card abbreviated Rorschach described by Valentine who found this half test about 90% as effective as the full test in underscoring major personality trends, is satisfactory for brief testing.

Administration

There is no need to review the methods of administering and scoring a Rorschach test. These are given in the Selected References.

Scoring

(For Scoring Sheet see the EXAMPLE CASE)

Scoring may vary with the administrator. The following list of category symbols is merely suggested for brief testing:

General and Organization	R:	total number of responses
	Z:	response with more than one object or concept
	W.	whole card response
	d.	small detail
	p.	part response, e.g. an arm, wing, handle
	S.	space
Form	F+:	form dominant in response
	F:	discernible form a part of the response
	F-:	nebulous form
Movement	M:	movement of any kind (Movement may be classified as aggressive, active, passive, inanimate,

animate, or human but needs no special symbols for this.)

Shading	K:	shading and texture
	V:	vista, perspective
Color	FC:	form dominant with color
	CF:	color dominant with form
	C:	color without form (pure color)
Content	P:	popular (responses commonly encountered)
	U:	unusual more than original
	O:	original
	H:	human
	A:	animal
	An:	anatomy
	Pl:	plant
	Obj:	object, not one of above

HELPFUL NOTES ON TENTATIVE RORSCHACH ANALYSIS

#R	Productivity, responsiveness, compulsivity, or (when low) constriction, evasiveness, flatness, inhibition, dullness
W, Z	Organization and integration
High W	Rigidity, defensiveness, strong attempt at control, intellectual
c, p%	Immaturity, preoccupation with detail, poor organization, distractibility
S	Stubborness, negativism, contrariness, resistance, hostility, opposition
F+%	Superego development, intellectual control, rigidity
F%	Intellectual and reality control, perception, discrimination
F-%	Loose thinking, poor intellectual control, precarious reality orientation, poor judgment, instability tendencies
M	Introversive, phantasy, instinctive tendencies
K, Vista	Free anxiety, conflict, repression of emotion
FC%	Emotional response with intellectual control, extroversion
CF%	Emotional response tends to dominate intellectual control
C	Emotional instability, anxiety, uncertain self control
P%	Conventionality, passivity, conformity
U%	Eccentricity, divergence
O%	Originality, intelligence
H%	Human interest, maturity, empathy

A%	Immaturity, instinctual dominance, lack of human interest
An., Obj.	Impersonality, immaturity

M/C, CF, FC	Experience balance
F+/M	Check against wishful living
F+/FC	Check against pressure of feelings

DRAW-A-PERSON TEST

This is a standard test which requires no special orientation in this manual. Several points may be mentioned, however. Originally subjects were asked to draw figures of both sexes, but this requirement has been discarded with the result of shortening the battery and obtaining enough information for the purpose of the battery. If the administrator feels the need he may obtain the second drawing, especially when finer dynamics are of interest. There are a variety of scoring and analysis schemes for this test. I would recommend all of them and then suggest that the administrator use his own. The House-Tree-Person modification may be useful, especially with children, again with the disadvantage of lengthening the battery.

FIGURE DRAWING ANALYSIS

(Some Possibilities)

Fast drawing:	evasion, unwillingness to face self, disturbing emotion
Slow drawing:	conflict, depression, feelings of inadequacy, preoccupation with detail, obsessive-compulsive tendency
Partial figure:	blocking, evasion, poor integration, feelings of inadequacy, lowered intellectual efficiency
Primitive figure:	dull intelligence, lack of personality development, poor insight capacity
Empty figure:	depression, insecurity, feelings of inadequacy, poor insight

Over-detailed figure	obsessive compulsive tendency; preoccupation with detail, insight capacity, intellectuality, keen self-awareness
Large figure: (5-7 inch norm.)	self preoccupation, poor organization, insecurity, emotional instability, introversion
Small figure:	timidity, lack of self confidence, easily overwhelmed by environmental circumstances, avoidance, anxiety, and insecurity
Childish figure:	immaturity, regression
Figure off center:	limited ability to cope with environment, poor organization
Figure of opposite sex:	suggests identification problem
Masculine figure:	masculinity strivings versus passive feminine tendencies, homosexuality
Moving figure:	masculine strivings, internalized emotion, fear or passivity
Seated figure:	passive dependent tendencies
Nude figure:	narcissism, inadequacy, poor judgment, poor insight, sexual preoccupation
Props to figure:	passive, dependent tendencies, circumstantiality, inability to deal with self concepts
Stick figure:	evasiveness
Large head:	immaturity, intellectuality, poor control of emotion
Bad proportions:	poor integration, limited insight
Tilted figure:	insecurity
Paper chopping:	poor organization, lowered reality testing
Erasures:	conflict

Transparencies:	lowered critical faculties
Shading:	anxiety, conflict, self-preoccupation
Carelessness:	free-floating anxiety, deeper instinctual disturbance
Solid outlines:	rigidity
Reenforced lines:	anxiety, self insulation, introversion
Short jagged strokes:	repressed agression and anxiety
Dashed lines:	lowered awareness
Lack of closure:	poor reality testing
Eye emphasis:	paranoid, suspicious
Mouth emphasis:	orality
Ear emphasis:	sensitivity, ideas of reference
Facial expression:	reflects social attitude of subject
Hands:	indicate type of social and environment relations, degree of extroversion
Artistry:	insight capacity and perceptivity

PICTURE IDENTIFICATION TEST SCORING SHEET

Directions to subject: "Please name as accurately as you can all the objects on this card in whatever order you choose."

Record wrong, irrelevant, or unusual answers verbatim

Time:_____ Score:_____

Estimated I. Q._____

1 point (names)	2 points (differentiates)	3 points (specifies)
Lady, man, person, soldier	Egyptian, Greek, ancient person, Bible character	Pharoah, Egyptian king, queen, Cleopatra
Temperature	Thermometer	Centigrade thermometer
Plant, tree	Cactus	Arizona, Saguaro cactus
Globe, sphere, world, moon, earth, satellite	Planet (Mars, etc.)	Saturn
Hat, crown, helmet, spurs	Priest's or Pope's hat	Miter
Stars	Star group, constellation	Small or Big Dipper
Tower, castle, fortress, lighthouse church steeple, building	Mexican, Egyptian, Moorish, Spanish tower	Mosque, minaret, praying tower
Rope	Knot	Square, sailor's fisherman's knot, double hitch, bowline
Lizard, animal, kangaroo	Prehistoric animal dinosaur, Gila, reptile	Tyranosaurus Rex, tyrant dinosaur

Cart, carriage, hack, wagon, chariot, surrey	Chinese, Japanese carriage	Rickshaw
ABC's, arithmetic lettering, math, formula	Algebra, equation	Quadratic equation
Boat, sailboat	Ancient, Egyptian, Chinese, Japanese, Viking, oriental ship	Junk, sampan
TOTALS		

STANDARD ADMINISTRATION DIRECTIONS AND PROMPTINGS

FOR THE PICTURE IDENTIFICATION TEST

The subject is given the test card and directed: "Please name as accurately as you can all the objects on this card in whatever order you choose."

It is important that the subject be helped to his best performance on each item. For this purpose the following list of prompting questions and comments is to be followed. Items are listed from top to bottom of the scoring sheet.

Item	Point Answer	Prompting question or comment
1.	1	What country is he or she from?
	2	What is his or her name or rank?
2.	1	What measures the temperature?
	2	What kind of thermometer?
3.	1	What is the plant or tree called?
	2	What is the name of the cactus?
4.	1	The moon or earth have no rings. Can you be more specific?
	2	What is the name of the planet? If the subject names Mars, etc., he is encouraged to keeping trying for the right name.
5.	1	If spurs: Could it be something else? Why is there a cross?
	2	What is the name of the hat?
6.	1	If tracks, birds, prints, etc.: No, they are stars. What stars are they?
	2	Can you name the group or constellation?
7.	1	What country is the tower, etc., from?
	2	What is the tower used for?
8.	1	What is the rope doing?
	2	What is the name of the knot?

9.	1	Can you be more specific? A kangaroo has large ears.
	2	What is the dinosaur's name?
10.	1	What country is the cart, etc., from?
	2	What is the carriage called?
11.	1	What kind of math or arithmetic?
	2	Can you name the equation?
12.	1	What country is the boat from?
	2	What is the boat called?

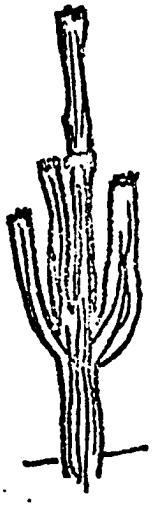
Low scores for persons of limited education or older than 60 must be carefully evaluated. With children, for each year under 14 add one point to the raw score. Remember this test was designed as part of a battery and was not intended to give an absolute I. Q.

WAIS I. Q.	P. I. T.	RAW SCORE
130 & over	35	
130	34	
129	33	
128	32	
127		SUPERIOR
126	31	
125		
124	30	
123		
122	29	
121		
120	28	
119		
118	27	
117		
116		
115	26	BRIGHT
114		
113		
112	25	
111		
110		
109	24	
108		
107		
106	23	
105		HIGH AVERAGE
104		
103	22	
102		
101		
100		

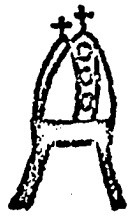
99	21	
98		
97		
96		
95	20	LOW AVERAGE
94		
93		
92		
91	19	
90		
89		
88		
87	18	
86		
85		DULL
84		
83	17	
82		
81		



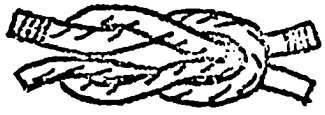




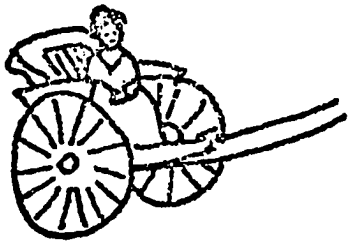




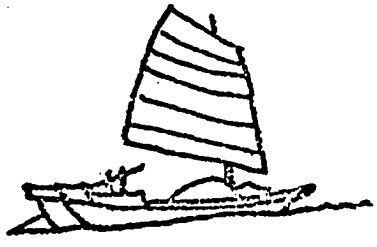








$$ax^2 + bx + c = 0$$



APPENDIX B

THE BRIEF PSYCHIATRIC RATING SCALE

A facsimile of the current version of the BPRS is presented. The two final rating constructs representing Excitement and Disorientation are recent additions to the BPRS. The observer rates each construct on the 7-point severity continuum. The reference group used in making judgements of severity of each symptom construct is the population of patients who have the symptom in question, i.e., "As compared with patients who have this symptom, what is the degree of severity of the symptom in this patient?" Each construct in the scale is accompanied by a capsule definition as an aid in the rating. More complete definitions have been provided and are particularly helpful in training. They are reproduced here for definitional purposes. The first six are based upon observation of the patient, rather than what in particular he says.

Tension

This construct is restricted in the BPRS to physical and motor signs commonly associated with anxiety. Tension does not involve the subjective experience or mental state of the patient. Although research psychologists, in an effort to attain a high degree of objectivity, frequently define anxiety in terms of physical signs, in the BPRS observable physical signs of tension and subjective experiences of anxiety are rated separately. Although anxiety and tension tend to vary together, developmental research with the BPRS has in-

dicated that the degree of pathology in the two areas may be quite different in specific patients. A patient, especially when under the influence of a drug, may report extreme apprehension but give no external evidence of tension whatsoever, or vice versa. In rating the degree of tension, the rater should attend to the number and nature of signs of abnormally heightened activation level such as nervousness, fidgeting, tremors, twitches, sweating, frequent changing of posture, hypertonicity of movements, and heightened muscle tone.

Emotional Withdrawal

This construct is defined solely in terms of the ability of the patient to relate in the interpersonal interview situation. Thus, an attempt is made to distinguish between motor aspects of general retardation, which are rated as "motor retardation," and the more mental-emotional aspects of withdrawal, even though ratings in the two areas may be expected to covary to some extent. In the factor analyses of change in psychiatric ratings, a "general retardation" factor has emerged in several different analyses, and this general retardation factor has included emotional, affective and motor retardation items. It is difficult to identify the basis for rating of "ability to relate"; however, initial work has indicated that raters achieve reasonably high agreement in rating this quality. Emotional withdrawal is represented by the feeling on the part of the rater that an invisible

barrier exists between the patient and other persons in the interview situation. It is suspected that eyes, facial expression, voice quality and lack of variability, and expressive movements all enter into the evaluation of this important, but nebulous quality of psychiatric patients.

Mannerisms and Posturing

This symptom area includes the unusual and bizarre motor behavior by which a mentally ill person can often be identified in a crowd of normal persons. The severity of manneristic behavior depends both upon the nature and number of unusual motor responses. However, it is the "unusualness," and not simply the amount of movement, which is to be rated. Odd, indirect, repetitive movements, or movements lacking normal coordination and integration, are rated on this scale. Strained, distorted, abnormal postures which are maintained for extended periods are rated. Grimaces and unusual movements of lips, tongue, or eyes are considered here also. Tics and twitches which are rated as signs of tension are not rated as manneristic behavior.

Motor Retardation

Motor retardation involves the general slowing down and weakening of voluntary motor responses. Symptomatology in this area is represented by behavior which might be attributed to the loss

of energy and vigor necessary to perform voluntary acts in a normal manner. Voluntary acts which are especially affected by reduced energy level include those related to speech as well as gross muscular behavior. With increased "motor retardation" speech is slowed, weakened in volume, and reduced in amount. Voluntary movements are slowed, weakened, and less frequent.

Uncooperativeness

This is the term adopted to represent signs of hostility and resistance to the interviewer and interview situation. It should be noted that "Uncooperativeness" is judged on the basis of response of the patient to the interview situation while "hostility" is rated on the basis of verbal reports of hostile feelings or behavior toward others outside the interview situation. It was found necessary to separate the two areas because of an occasional patient who refrained from any reference to hostile feelings and who even denies them, while evidencing strong animosity toward the interviewer.

Excitement

Excitement refers to the emotional, mental and psychological aspects of increased activation and heightened reactivity. The excited patient tends to be active, agitated, quick, loud and emotionally responsive. Whereas tension is a construct concerned with physical or motor manifestations of activation, excitement has reference primar-

ily to the mental and emotional areas. Tension usually implies a binding of the physical activation potential while excitement is the underlying activation potential. The degree of excitement depends on the strength of arousal and heightened affect.

The remaining constructs are defined and rated primarily in terms of what the patient says in the interview and the intensity of the reported experience.

Conceptual Disorganization

Conceptual disorganization involves the disruption of normal thought processes and is evidenced in confusion, irrelevance, inconsistency, disconnectedness, disjointedness, blocking, confabulation, autism, and unusual chain of associating. Ratings should be based upon the patient's spontaneous verbal products, especially those longer, spontaneous response sequences which are likely to be elicited during the initial, non-directive portion of the interview. Attention to the facial expression of the patient during the verbal response may be helpful in evaluating the degree of confusion or blocking.

Unusual Thought Content

This symptom area is concerned solely with the content of the patient's verbalization; the extent to which it is unusual, odd, strange, or bizarre. Notice that a delusional or paranoid patient may present bizarre or unbelievable ideas in a perfectly straightforward,

clear, and organized fashion. Rate only unusualness of content for this item, not degree of organization or disorganization.

Anxiety

Anxiety is a term restricted to the subjective experience of worry, overconcern, apprehension or fear. Rating of degree of anxiety should be based upon verbal responses reporting such subjective experiences on the part of the patient. Care should be taken to exclude from consideration in rating anxiety the physical signs which are included in the concept of tension, as defined in the BPRS. The sincerity of the report and the strength of the experience as indicated by the involvement of the patient may be important in evaluating degree of anxiety.

Guilt Feelings

The strength of guilt feelings should be judged from the frequency and intensity of reported experiences of remorse for past behavior. The strength of the guilt feelings must be judged in part from the degree of involvement evidenced by the patient in reporting such experiences. Care should be exercised not to infer guilt feelings from signs of depression or generalized anxiety. Guilt feelings relate to specific past behavior which the patient now believes to have been wrong and the memory of which is a source of conscious concern.

Grandiosity

Grandiosity involves the reported feeling of unusual ability, poser, wealth, importance, or superiority. The degree of pathology should be rated relative to the discrepancy between self-appraisal and reality. The verbal report of the patient and not his demeanor in the interview situation should provide the primary basis for evaluation of grandiosity. Care should be taken not to infer grandiosity from suspicions of persecution or from other unfounded beliefs where no explicit reference to personal superiority as the basis for persecution has been elicited. Ratings should be based upon opinions currently held by the patient, even though the unfounded superiority as the basis for persecution has been elicited. Ratings should be based upon opinions currently held by the patient, even though the unfounded superiority may be claimed to have existed in the past.

Depressive Mood

Depressive mood includes only the affective component of depression. It should be rated on the basis of expressions of discouragement, pessimism, sadness, hopelessness, helplessness, and gloomy theme. Facial expression, weeping, moaning and other modes of communicating mood should be considered, but motor retardation, guilt, and somatic complaints, which are commonly associated with the psychiatric syndrome of depression, should not be considered in

rating depressive mood.

Hostility

Hostility is a term reserved for reported feelings of animosity, belligerence, contempt, or hatred toward other people outside the interview situation. The rater may attend to the sincerity and affect present in reporting of such experiences when he attempts to evaluate the severity of pathology in this symptom area. It should be noted that evidences of hostility toward the interviewer in the interview situation should be rated on the "uncooperativeness" scale and should not be considered in rating hostility as defined here.

Somatic Concern

The severity of physical complaints should be rated solely on the number and nature of complaints or fears of bodily illness or malfunction, or suspiciousness of same, alleged during the interview period. The evaluation is of the degree to which the patient perceives or suspects physical ailments to play an important part in his total lack of well-being. Worry and concern over physical health is the basis for rating somatic concern. No consideration of the probability of true organic basis for the complaints is required. Only the frequency and severity of complaints are rated.

Hallucinatory Behavior

The evaluation of hallucinatory experiences frequently requires judgment on the part of the rater as to whether the reported experience represents hallucination or merely vivid mental imagery. In general, unless the rater is quite convinced that the experiences represent true deviations from normal perceptual and imagery processes, hallucinatory behavior should be rated as "not present."

Suspiciousness

Suspiciousness is a term which is used to designate a wide range of mental experience in which the patient believes himself to have been wronged by another person or believes that another person has, or has had, intent to wrong. Since no information is usually available as a basis for evaluating the objectivity of the more plausible suspicions, the term "accusations" might be a more appropriate characterization of this area. The rating should reflect the degree to which the patient tends to project blame and to accuse other people or forces of malicious or discriminatory intent. The pathology in this symptom area may range from mild suspiciousness through delusions of persecution and ideas of reference.

Blunted Affect

This symptom area is recognized by reduced emotional tone and apparent lack of normal intensity of feeling or involvement. Emo-

tional expressions are apt to be absent or of marked indifference and apathy. Attempted expressions of feeling may appear to be mimetic and without sincerity.

Disorientation

This rating construct has been included to provide a place for recording the particular kind of confusion that is evidenced by lack of memory or proper association for persons, places or times. The disoriented individual may not know where he is, how to relate where he is to other points in the environment, or how to get from one place to another. The identities of persons that should be familiar may be confused. Location in time and place, and even personal identity may be confused or unavailable for recall. Distortions in identity such as those that occur in delusional systems should not be rated under disorientation. Disorientation represents the type of confusion that frequently occurs in organic conditions.

BRIEF PSYCHIATRIC RATING SCALE
Overall and Gorham

DIRECTIONS: Place an X in the appropriate box to represent level of severity of each symptom.

PATIENT _____

RATER _____

NO. _____

DATE _____

	Not Present	Very Mild	Mild	Moderate	Mod. Severe	Severe	Extremely Severe
1. SOMATIC CONCERN - preoccupation with physical health, fear of physical illness, hypothondriases.							
2. ANXIETY - worry, fear, over-concern for present or future.							
3. EMOTIONAL WITHDRAWAL - lack of spontaneous interaction, isolation, deficiency in relating to others.							
4. CONCEPTUAL DISORGANIZATION - thought processes confused, disconnected, disorganized, disrupted.							
5. GUILT FEELINGS - self-blame, shame, remorse for past behavior.							
6. TENSION - physical and motor manifestations or nervousness, over-activation, tension.							
7. MANNERISMS AND POSTURING - peculiar, bizarre, unnatural motor behavior (not including tic).							
8. GRANDIOSITY - exaggerated self-opinion, arrogance, conviction of unusual power or abilities.							

9. DEPRESSIVE MOOD - sorrow, sadness despondency, pessimism. _ _ _ _ _ _ _

10. HOSTILITY - animosity, contempt, belligerence, disdain for others. _ _ _ _ _ _ _

11. SUSPICIOUSNESS - mistrust, belief others harbour malicious or discriminatory intent. _ _ _ _ _ _ _

12. HALLUCINATORY BEHAVIOR - perceptions without normal external stimulus correspondence. _ _ _ _ _ _ _

13. MOTOR RETARDATION - slowed weakened movements or speech, reduced body tone. _ _ _ _ _ _ _

14. UNCOOPERATIVENESS - resistance, guardedness, rejection of authority. _ _ _ _ _ _ _

15. UNUSUAL THOUGHT CONTENT - unusual, odd, strange, bizarre thought content. _ _ _ _ _ _ _

16. BLUNTED AFFECT - reduced emotional tone, reduction in normal intensity of feelings, flatness. _ _ _ _ _ _ _

17. EXCITEMENT - heightened emotional tone, agitation, increased reactivity. _ _ _ _ _ _ _

18. DISORIENTATION - confusion or lack of proper association for person, place, or time. _ _ _ _ _ _ _