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An attempt to develop a picture-preference-test depression scale.

Mary Catherine. Noel

University of Windsor

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AN ATTEMPT TO DEVELOP A
PICTURE-PREFERENCE-TEST DEPRESSION SCALE

by

Mary Catherine Noel

B. A. Oakland University, 1976

A Thesis
Submitted to the Faculty of Graduate Studies
through the Department of Psychology
in Partial Fulfillment of the
Requirements for the Degree
of Master of Arts at the
University of Windsor

Windsor, Ontario, Canada

1979
ABSTRACT

The author attempted to develop a depression scale from items in the 210-item Picture-Preference Test (PPT). As the basis for the proposed scale, the author used 11 items found by Ryan (1976) to have a correlation with the depression scale of the Differential Personality Inventory (DPI).

To obtain data for evaluating the new scale, the author tested 30 psychiatric inpatients, 30 psychiatric outpatients, and 31 people who claimed to be free of psychological problems. The author administered the entire 210-item PPT, and the DPI, to each subject. Each of the patients was interviewed individually and rated on the Brief Psychiatric Rating Scale (BPRS). For the purposes of the study, depressed people were separated from non-depressed by the ratings they received on the three scales of the BPRS which are believed to indicate depression.

The depression-scale scores of the criterion test, the DPI, correlated significantly with ratings on the BPRS, and, further, the DPI scores successfully discriminated among depressed, non-depressed, and non-psychologically-troubled groups of people.

The 11-item PPT depression scale proved inadequate. It failed to correlate with ratings on the BPRS and failed to differentiate among depressed, non-depressed, and non-psychologically-troubled individuals.

Using the data from this study, and integrating them with data from Rudzinski's study on 70 psychiatric inpatients (1979), the author attempted to construct another, more successful PPT depression scale. Every item in the PPT pool
was evaluated for correlation with a criterion measure of depression. One-half the sample group was used for analysis of data and the remaining half was used for cross-validation of the potential depression scale. While some of the PPT items of the "analysis" group did show a significant ($p < .05$) correlation with the criterion measures, cross-validation on the remaining half of the sample was unsuccessful. The author concludes that there are no items currently contained in the PPT item-pool that tap the domain of depressive traits.

The failure to develop a depression scale within the PPT appears to lie, not with the format, but with the empirical approach that was used in the study. A rational approach, involving construction of new items based on a theoretical consideration of the dimensions of depression, is recommended by the author as a better approach to the realization of the goal of a PPT depression scale.
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CHAPTER 1

INTRODUCTION

For the past twenty-five years a prodigious research effort has attempted to expand our knowledge regarding the etiology, effect, and treatment of the clinical condition of depression. For the most part the effort has been directed toward an understanding of the biological aspects of the disorder and toward the discovery of new and more effective drugs for its treatment. During the same period, in contrast to the intense interest and effort in biological and psychopharmacological research, there has been little research on the personality aspects of the depressive disorders. This study attempts to introduce some new perspectives to this underdeveloped area of research on depression.

According to the National Institute of Mental Health's (NIMH) Special Report on Depression (1973), the clinical condition of depression is on the increase and rivals schizophrenia as the nation's number one mental health problem. NIMH researchers estimate that some ten to fifteen percent of the general population will suffer a severe depressive episode at some time in their lives. In 1975 (latest available figures, Biometry Branch, NIMH) the depressive disorders
accounted for 239,364 hospital admissions for psychiatric care in the United States. This represented 27% of the total, second only to schizophrenia (28%) and surpassing alcoholism (16%). Depressive illness has been diagnosed retrospectively in 80% of reported samples of hospitalized individuals who die by suicide (Flood and Seager, 1968). Other surveys on the prevalence rate of depression vary to a degree, but all of the figures are staggering in their magnitude. Whatever the accurate count, it is quite clear that depression accounts for a very large share of human suffering and its cause and cure are not yet known either by mental health professionals or the general public. It is important therefore that research continue to turn its attention to this critical public health problem and most importantly to direct its attention to the relevancy of psychological factors in the etiology and development of this thoroughly human and exceedingly distressing condition.

A survey of the literature on depression indicates that many researchers and clinicians believe that individuals prone to develop clinical depressive illnesses display certain distinctive personality features which distinguish them from individuals not so predisposed. It would, in fact, be true for any form of psychopathology that the pre-morbid personality traits of individuals suffering acute psychological distress should be considered as predisposing factors to the
distress, because they represent the more basic developmental and/or environmental factors which led to the problem, or, because they are themselves a mild form of the disorder. In the causation of depression, the author believes that the predisposing factors are indeed a mild form of the more serious disorder itself.

In depression, as in most disorders, the causes for the association with certain personality traits are not yet known. Nevertheless, the knowledge of such a relationship is vital in our search for both the cause and the cure of the disorder. Once a relationship is established between personality traits and depression at a descriptive level, the more basic problems regarding the causation of depression can be approached successfully.

It is the intention of this present study to develop a personality-trait scale, a projective test which can be objectively scored, which will determine whether there are measurable differences in the personality features of those individuals who are prone to develop clinical depressive disorders and those who are not.

No purpose would be served in developing a new psychometric instrument unless it could provide advantages over the existing measures. A number of general psychological tests and rating scales are currently in use for the clinical recognition of depression, for its differential diagnosis,
and for the measurement of its severity. One shortcoming of most of these measures is that they are state measures and tell us little about the underlying dynamics of the disorder. Personality theorists and researchers increasingly distinguish between state and trait. An affective state refers to the momentary here-and-now feeling-status of the individual, while the affective trait measures a condition that has been relatively stable over a long period of time. The distinction is easily illustrated. In responding to an item such as "I feel sad," the respondent indicates his state -- how he feels at a particular point in time and not necessarily how he felt yesterday or the day before that. The response to an item such as "I am generally a sad person" obviously includes a time dimension and indicates an enduring attitude on the part of the respondent.

It is hoped that the scale to be developed will have the advantage of measuring those enduring features of the personality -- its traits. Once these are measured, a determination can be made as to whether there is a cluster or pattern of traits which is characteristic of those individuals who are more prone to suffer from depressive disorders than are their non-depressive counterparts.

Other advantages over the existing measurements which the author hopes to achieve in a new trait-scale are: greater ease in administration; increased potential for
maintaining the subject's interest, concentration, and motivation to be cooperative; a simpler and more completely objective scoring method; lowered possibility for faking on responses; elimination of verbal skills and complex decision making as major factors in test results.

Background of the Study

The work of Cowan (1967) exemplifies the use of the picture-preference-test concept to measure personality traits. Cowan was led to develop a new measurement of personality traits because of his dissatisfaction with the measuring techniques which were available to him at the time. The author feels that the approach pioneered by Cowan is the most suitable one to adopt in the development of a trait-scale to measure proneness to depression. Cowan's technique employs pictures which (theoretically) have a significant relationship with certain personality traits (see Appendix A for a reproduction of sample PPT test items). The subject is presented with a pair of these pictures and is asked to choose which one he prefers. The choice, it is theorized, reflects certain traits typical of his personality.

Although there are more highly developed and/or more widely used instruments, both for the self-report and the projective measurement of personality, the author feels that they all have certain drawbacks which the PPT has managed to avoid or overcome. The most widely used of the self-
report type of instruments is probably the Minnesota Multiphasic Personality Inventory (MMPI) of Hathaway and McKinley. The MMPI, along with other self-report inventories and self-rating scales, calls for some fairly complex judgments to be made by the subject. The determinants for such judgments are not necessarily evident, nor can they be expected to be similar across a whole range of subjects. The problem is of equal or even greater complexity when projective tests are employed and a clinician or technician is used to rate the subject on personality traits. Here, different theoretical concepts may underlie the rating and the clinician's training, biases, and experiences might form the principal basis for his particular judgment. All such determinants of judgment would be unspecifiable and varied across a group of clinicians and/or technicians.

Since the study of the depressive personality must be carried out on large populations, with varied subjects and researchers, these methodological problems must be overcome in the design of a new trait-scale. It would appear that Cowan's Picture-Preference Test (PPT) has overcome these problems. No complex judgments are required of the subject, and since the scoring is of a purely objective type, near-perfect interrater agreement should be expected.

The PPT appears to possess several other advantages over currently available measurements of personality;
(1) By using pictures, the investigator minimizes the degree to which the subject's verbal skills influence the test results if not, in fact, completely eliminates this influence. (2) Administration of the test is easier. (3) Pictures hold the subject's interest. (4) The subtlety of the picture's relationship to the subject's cognitive and emotional responding is less likely to arouse defenses than is the necessarily more pointed written question.

The PPA as Cowan originally constructed it contained 106 pairs of pictures. These evolved from Cowan's consideration of the literature on addictiveness, the subject of his research, and his conclusion that 27 traits are characteristic of the addictive personality. Cowan theorized that these characteristics, which he summarized in ten major traits, would vary from a low level in a normal population to a high level in a population with a propensity for addictiveness. Pictures were drawn which would theoretically appeal to persons high in the trait being measured and these were paired with pictures designed to appeal (theoretically) to persons not having a propensity toward addictiveness.

Cowan constructed the following ten trait-scales from the 106 picture pairs:

1. Compulsiveness
2. Impulsiveness
3. Avoidance of Intimacy
4. Oral Incorporative Trends
5. Infantile Needs for Security
6. Poor Self-Concept
7. Weak Defensive Structure
8. Low Frustration Tolerance
9. Narcissistic, Autoerotic Orientation
10. Anti-Social Impulses

The test was designed to distinguish addictive persons from both normals and neurotics.

The composite overall scoring of Cowan's sample group bore out his hypothesis that the test would reliably distinguish the addictive subject group from the total nonaddictive subjects. It did not, however, distinguish addictive subjects from neurotics.

Bégin (1972) further analyzed the data collected by Cowan. He computed the homogeneity of the ten trait-scales and attempted to improve them by item selection and regrouping. Bégin reduced the ten trait-scales to four and the 106 items to 40. The revised test had the following trait-scales.

1. Obsessive and Regressive Tendencies
2. Avoidance of Intimacy
3. Oral Incorporative Trends
4. Anti-Social Impulses

When applied to a new sample, all four of the scales
distinguished alcohol addicts from non-addicts.

Morrison (1973), in his research, added 90 original items to some of the Cowan and Bégin items and developed a test tapping the following seven traits which he believed to be characteristic of the alcohol addict:

1. Impulsiveness
2. Oral Dependency
3. Magical Omnipotence
4. Anti-Social Impulses
5. Avoidance of Intimacy
6. Infantile Needs for Security
7. Masochistic Tendencies

The overall test scores of Morrison's sample showed a statistically significant difference between alcohol addicts and non-addicts and between alcohol addicts and neurotics.

Amin (1975), in his investigation of the personality traits involved in the avoidance of sexual intimacy in females, developed a trait-scale to measure those characteristics which he believed to be enduring features of such a personality. Amin developed his scale by refining the avoidance of intimacy scales of Cowan, Bégin, and Morrison through a process of elimination of non-pertinent items and the addition of others more relevant to his research.
Berek (1975), using Cowan's 106 items along with Morrison's 90, tested 309 undergraduate students. The data were subjected to a principal-components factor analysis from which three meaningful factors emerged: Factor I -- General Social Dysfunction Preference, Factor II -- General Anti-Social Activity Preference, and Factor III -- General Passive Orientation Preference.

Auld, in 1976, also factor analyzed Berek's raw data (Reference Note 1). Three factor-scales were generated: Factor I -- Maladjustment, Factor II -- Masculine Aggressiveness, and Factor III -- Alienation.

Ryan (1977) designed and carried out a study to evaluate the construct validity of the PPT. At that time, the PPT consisted of 28 scales (Cowan's 10, Bégin's 4, Morrison's 7, Amin's 1, and 3 scales each from Auld's and Berek's studies) which theoretically measured a number of different personality traits. In his study, Ryan followed the general criteria for construct validity as outlined in Campbell and Fiske (1959) and Jackson (1969). This process is twofold. It calls for the establishing of a significant relationship between a newly developed test and other scales to which it bears a theoretical relationship and whose validity is already established. No less important is the second facet of the twofold process, which calls for the establishing of little or no relationship between the new
test and established scales to which it should theoretically bear no relationship.

Ryan chose to evaluate the PPT against the established criterion scales of Jackson and Messick's Differential Personality Inventory (1964). The Differential Personality Inventory (DPI) was chosen because it came closest of all personality measures to surveying the same personality traits as the PPT and also because of its superior test construction and its thorough and satisfactorily established validity.

Ryan found that, in general, the individual PPT scales did correlate with those DPI scales with which they should theoretically bear a relationship. At the time of the study, the PPT contained no depression scale and, as might be expected and even hoped for, no statistically significant correlation was found between the depression scale of the DPI and the scales of the PPT. Close inspection of the PPT items, however, indicated to Ryan that items did exist in the PPT item-pool which possibly tapped depressive traits. An item analysis of the PPT confirmed this belief; eleven items correlated significantly with the DPI Depression scale. These items are the basis of the use of the PPT in the present study.
Psychoanalytic Theory of Depression

The most salient aspect of depression, according to psychoanalytic literature, is the individual's decreased self-esteem. Self-esteem is dependent on, and regulated by, the quality and quantity of the individual's "narcissistic supplies," narcissistic in the sense that their attainment is essential to maintaining self-esteem. These supplies come first in the form of food and later in the form of love and of gratification from one's significant objects (people or ideals). Under ideal conditions, as the individual develops, self-esteem comes to be regulated by what Jacobson (1953 and 1954) described as "...the degree of harmony or discrepancy between the self-representations and the wished-for concept of the self."

The central core of the classical psychoanalytic theory of depression can be found in Abraham (1911 and 1916) and Freud (1917). Several of Abraham's initial observations have had a lasting impact on psychoanalytic theories of depression. Abraham noted the tendency of depressives to form intensely ambivalent object relations. The hatred aspect of ambivalence is typically repressed -- out of conscious awareness. The strength of the repressed hatred however, seriously interferes with the capacity to love, or, as Abraham postulated, "Hate paralyzes love." Abraham felt that this accounted for the feelings of emotional impoverish-
ment of which depressives invariably complain. The repressed hatred, in addition to paralyzing love, arouses guilt, which in turn generates anxiety, self-depreciation, and depression. Abraham distinguished depression from grief by ascribing the former to repressed hatred and the latter to sadness over the loss of a valued object (person, object, or ideal).

Abraham contended that despite the fact that the heterosexual relations of depressives appeared conventional, the strong narcissism of the depressive was indeed accompanied by much underlying confusion about sex-role identity.

In his next paper on depression, Abraham (1916) attempted to explain the implicit wish content of certain depressive delusional ideas within the framework of the psychosexual developmental phases. Specifically he dealt with the depressive's frequent refusal of food and the rationalization of this action as a "wish to die." Abraham discounted such a rationalization as an explanation of the action and instead accounted for the self-starvation as a regression to a very early "oral-cannibalistic" developmental stage in which the most deeply repressed wish is to devour the frustrating love object. Refusal of food reflects a defense against acting out such an impulse as well as expiation for having such odious impulses. In such a regression, one could theorize that there was the occurrence
of significant emotional difficulties during the oral phase of infantile development. The source of such difficulty is usually the withdrawal and/or withholding of narcissistic supplies. This, in turn, results in a fixation of emotional development at the oral stage. Thus, when there is a recapitulation (symbolic) of the primary infantile loss later in life, the orally predisposed adult unconsciously confuses it with the earlier traumatic experiences. In such a regression, the latest loss is experienced as was the original one -- a loss of primary narcissistic supplies at a time when external supplies regulated self-esteem. There follows a lowering of self-esteem, which, in turn, leads to depression.

Freud's *Mourning and Melancholia* (1917) is regarded as a major contribution to psychodynamic theory as well as to the theory of depression. Freud, as Abraham, took as his starting point the comparison between grief (mourning) and depression (melancholia). According to Freud, the loss of a significant object can precipitate either normal grief or clinical depression. The two states share many of the same attributes, such as sadness of mood, dejection, slowed motor activity, lowered energy level, and constriction of interest. They differ, however, in that the depressive or melancholic tends to be more severely self-depreciating, accusing himself of being worthless, unworthy, inadequate,
and morally despicable. To the mourner, it is the world that is impoverished by the loss, while, to the melancholic it is the ego that is impoverished. Also, in normal mourning the loss is conscious, whereas, in depression the loss is unconscious.

Freud suggested that in the normal course of mourning, the ego undergoes an acutely painful process of conflict resolution. The conflict is between the wish-fulfilling desire to deny the loss and the reality demands to acknowledge it. Normally, the energy invested in the psychic representation of the lost object (object-cathexis) is freed and eventually displaced to substitute objects. In the case of melancholia, instead of the freed energy from the (ambivalently-invested) lost object being displaced to a new object, the ego identifies with the lost object by a process of introjection. The original ambivalence or conflict between the ego and the external object then becomes an intrapsychic conflict. On one side of the conflict is the conscience (later termed the superego), while on the other is the ego which has now been modified by its identification with the ambivalently held lost object. Freud described it in the following way:

An object-choice, an attachment of the libido to a particular person, had at one time existed: then owing to a real slight or disappointment coming from this
loved person, the object relationship was shattered. The result was not the normal one of withdrawal of the libido from this object and a displacement of it onto a new one, but something different for whose coming about various conditions seem to be necessary. The object-cathexis proved to have little power of resistance and was brought to an end. But the free libido was not displaced onto another object; it was withdrawn into the ego. There, however, it was not employed in any unspecified way, but served to establish an identification of the ego with the abandoned object. Thus the shadow of the object fell upon the ego, and the latter could henceforth be judged by a special agency, as though it were an object, a forsaken object. In this way an object loss was transformed into an ego loss and the conflict between the ego and the lost person into a cleavage between the critical activity of the ego and the ego as altered by identification.

(Freud, 1917)

Freud considered the self-reproach and loss of self-esteem that develop in depression as being directed toward the introjected and lost object. When a depressed individual dwells on his own misdemeanors, deficiencies, and inadequacies, he is unconsciously expressing his feelings about the lost object. Thus the depression becomes a narcissistic, inner-directed process rather than an outer-directed attempt to cope with real object loss.

It is, of course, apparent that the loss of a love object, regarded by Freud as essential to the development
of depression, need not involve the actual death of a person. Instead, he included all those situations of being hurt, neglected, out of favor, or disappointed, which in symbolic form could recapitulate a loss suffered at an earlier developmental stage. Freud also emphasized a marked oral dependency (an exaggerated need for continuous supplies of love and support) in depressed people. Such dependency undoubtedly relates to oral fixations due to frustrations and gratifications at the oral phase of development. Freud agreed with Abraham that the depressive's refusal to eat stemmed from conflictual "oral-cannibalistic" impulses.

Fenichel (1945) was the first of the analytic authors to switch the focus from object loss to an emphasis on lost self-esteem, of which the lost object is merely symbolic. The concept was more fully developed by Bibring (1953) in his outstanding contribution to the theory of depression. To Bibring, the basic mechanism of depression was "...the ego's shocking awareness of its helplessness in regard to its aspirations." He emphasized the infant's shocklike experience of, and fixation to, feelings of helplessness rather than oral fixation per se. Bibring posited that there are narcissistic aspirations specific to each of the developmental stages; narcissistic in the sense that their
attainment is essential to self-esteem. It is the realization of powerlessness and helplessness to attain these aspirations that deflates self-esteem and evokes depression. Narcissistic goals of the oral phase are; the need to get food, affection, to be loved, to be taken care of, or; the opposite defensive needs to be independent and self-supporting. Aspirations of the anal phase are mastery of one's body and its drives, and, an intense need to be loving and clean and not to be dirty and evil. In the phallic phase, goals are directed toward being a successful competitor, strong, admired, fearless, and non-vulnerable. In short, phase-specific narcissistic aspirations all relate to being loved and loving, as well as, being cared for and having the competency to care for oneself. It is the recurring experience of frustrated helplessness during any or all of these psychosexual developmental phases which provides a prototypical reaction pattern that is reactivated by a subsequent symbolic loss.

Bibring, like the earlier writers, felt that a predisposition to depression existed and that it stemmed from early childhood.

Other authors have made important contributions to the psychoanalytic theory of depression, but to quote from each of them is beyond the scope of this paper. This
representative, but by no means exhaustive, review of the literature suffices to explain the fundamental views on the structure and genesis of depression.

Depression as an affect is universal. No human life escapes some degree of depressive reaction, however mild, as the consequence of a real or imagined loss or blow to the self-esteem. Its occurrence under these conditions is so regularly present as to be accepted as an accompaniment or sequel which need not be questioned.

Freud postulated the occurrence of an uncomplicated grief process in which the libidinal energy investment is withdrawn from the lost object (a source of narcissistic supplies) and redirected toward a substitute object. If the process of withdrawal and substitution is not accomplished, instead there occurs an identification of the ego with the lost object. Both Freud and Abraham proposed that such identification is carried out by the instinctual process of oral incorporation. The incorporation of the lost (ambivalently-held) object by this mechanism unleashes against the self all the repressed feelings of hatred and rage previously held for the external and now lost object. These feelings account for the three cardinal symptoms by which Freud distinguished melancholia from normal mourning: lowered self-esteem, self-accusations, and a delusional need for self-punishment.
Certain of the concepts of Abraham and Freud, such as the libidinal energy flow and the primacy of orality in depression, came to be modified by later theorists. The basic concepts are still, however, widely accepted. In summary, the foundation of depression, according to the psychoanalytic view, lies in problems resulting when narcissistic supplies (people, objects, ideals, or aspirations) are withdrawn, withheld, or diminished in some way during the important psychosexual phases of development. The developing personality is molded by these events and the characteristic way of dealing with both the external environment and the internal conflict and danger to the ego are firmly established. It is these enduring characteristics of personality traits which, when a real or imagined loss or even a threat of loss of narcissistic gratification occurs, predispose the individual to regressively react; the result is depressive symptomatology: feelings of powerlessness and helplessness, weakness and inferiority, evilness and guilt.

The Present Study

Purpose. The primary purpose of this study is to develop a trait-scale, using the picture-preference technique created by Cowan, which will measure those traits referred to in the psychoanalytic literature that (theoretically)
predispose an individual to develop clinical depression. This technique requires that a subject make a choice between two simultaneously presented pictures which are not obvious in their intent. One picture of each pair has a theme which relates to the characteristics of the depressive personality (orality, loss, damage to self, or damage to objects). The other picture has a neutral or less anxiety arousing theme. The 11 pictures identified by Ryan as having a significant correlation with items of the DPI Depression scale will form the basis for this new scale.

The study also intends to establish the validity of the PPT depression-scale by determining its relationship to an existing test, the validity of which has already been satisfactorily established. The DPI, which was used in Ryan's study, will be used as the criterion measure in this effort to validate the new depression scale.

**Hypotheses.** The study generates the following two hypotheses which will be tested.

1. Scores on the depression scale of the PPT will correlate significantly with scores on the depression scale of the Differential Personality Inventory.

2. Individuals who are currently experiencing, or have experienced in the past, a clinical depression of
such severity that professional help has been sought for its alleviation, will have higher scores on the PPT depression scale than those individuals who have not. In other words, it is predicted that the former group will respond to the PPT by choosing a greater number of the pictures which have been predetermined to correlate with the depressive personality than will their non-depressive counterparts.
CHAPTER II
DESIGN AND METHOD

Subjects

The sample comprised 91 men and women ranging in age from 17 to 65. The three components of the sample were: a group of people receiving professional mental health care on an outpatient basis, a group of hospitalized psychiatric patients, and a group of people presumably without psychological symptoms.

The outpatient group of 21 women and 9 men was recruited from individuals who consecutively presented themselves for professional mental health care at the Oakland County Community Mental Health Centers in Oakland County, Michigan. All patients who were able to comprehend and respond appropriately to the required "Informed Consent Form" were invited to participate in the study (see Appendix B for Consent Form).

The psychiatric inpatient group was made up of 10 men and 20 women who had been admitted consecutively to the psychiatric inpatient unit of Saint Joseph Mercy Hospital in Pontiac, Michigan. Patients judged by their psychiatrists to be too disturbed to cooperate in the testing were not invited to participate in the study.

The third component of the sample comprised 16 women and 15 men who were recruited from local church groups, tennis
clubs, and classes at Oakland Community College, in Oakland County, Michigan. All depressed and otherwise psychologically troubled individuals were eliminated from this group by inquiring of each whether he was currently experiencing severe depression or other psychological problems or whether he had experienced them in the past. The data from persons who acknowledged such problems were not used in the study.

In addition to the individuals comprising the author's sample, the test data of 70 adult psychiatric patients collected by Rudzinski (1979) were used in cross-validation studies.

The author obtained the following information from each subject whose test results were used in the study: age, sex, marital status, educational level reached, and occupational status. A summary of the characteristics of the sample is presented in Table 1.

Characteristics of the Rudzinski sample are also shown in Table 1.

**Materials**

*Picture-Preference test.* The revised edition of the PPT, consisting of 210 items, was used for this study. The latest revision was completed by Rudzinski (1979), working under the guidance of Auld and Ryan, who have continued to work in developing the test. Rudzinski deleted 53 items which had failed to show a significant correlation with any of the Differential Personality Inventory scales, and then he added
TABLE 1  
Characteristics of Non-Patients, Outpatients, Inpatients, and Rudzinski Sample

<table>
<thead>
<tr>
<th></th>
<th>Nonpatients (N=31)</th>
<th>Outpatients (N=30)</th>
<th>Inpatients (N=30)</th>
<th>Rudzinski Sample (N=70)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex: Percentage Male</td>
<td>48.9</td>
<td>30</td>
<td>33.3</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Percentage Female</td>
<td>51.1</td>
<td>70</td>
<td>66.7</td>
</tr>
<tr>
<td>Marital Status: Percentage Married</td>
<td>29</td>
<td>40</td>
<td>57</td>
<td>Data</td>
</tr>
<tr>
<td></td>
<td>Percentage Single</td>
<td>65</td>
<td>26</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Percentage Separated</td>
<td>0</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Percentage Divorced</td>
<td>3</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Percentage Widowed</td>
<td>3</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Age: Age Group Code a</td>
<td>Mean 2.48</td>
<td>2.90</td>
<td>3.23</td>
<td>2.81</td>
</tr>
<tr>
<td></td>
<td>S.D. 1.32</td>
<td>1.14</td>
<td>1.26</td>
<td>1.10</td>
</tr>
<tr>
<td>Educational Level b</td>
<td>Mean 2.16</td>
<td>3.10</td>
<td>3.80</td>
<td>4.10</td>
</tr>
<tr>
<td></td>
<td>S.D. .99</td>
<td>.83</td>
<td>1.30</td>
<td>1.10</td>
</tr>
<tr>
<td>Occupational Level c</td>
<td>Mean 2.48</td>
<td>3.90</td>
<td>5.00</td>
<td>4.81</td>
</tr>
<tr>
<td></td>
<td>S.D. 1.05</td>
<td>1.30</td>
<td>1.48</td>
<td>1.45</td>
</tr>
<tr>
<td>Index of Social Position d</td>
<td>Mean 25.06</td>
<td>37.30</td>
<td>46.60</td>
<td>50.55</td>
</tr>
<tr>
<td></td>
<td>S.D. 10.30</td>
<td>12.75</td>
<td>13.62</td>
<td>11.60</td>
</tr>
</tbody>
</table>

a Code for age groups: 1 = less than 20 years; 2 = 20 to 29 years; 3 = 30 to 39; 4 = 40 to 49; 5 = 50 to 59; 6 = over 60 years.

b Code for educational level: 1 = graduate professional training; 2 = college graduate; 3 = some college; 4 = high school graduate; 5 = tenth or eleventh grade completed; 6 = 7th, 8th, or 9th grade only; 7 = less than seven years of school completed.

c Code for occupational level: 1 = executives and major professionals; 2 = managers and minor professionals; 3 = administrative and semi-professionals; 4 = owners of small business, clerical and technicians; 5 = skilled workers; 6 = semi-skilled workers; 7 = unskilled workers.

d ISP scores were computed by the formula: 7(occupational level) + 4(educational level) = ISP. Social class levels correspond to ISP scores as follows: 11 to 17 = upper class; 18 to 27 = upper middle class; 28 to 43 = lower middle class; 44 to 60 = upper lower class; 61 to 77 = lower lower class.
thirty-one new items which he intended as items to measure thinking disorders.

The 11 items from the PPT which Ryan had identified as having a significant correlation with items from the DPI Depression scale are described in Table 2. Table 2 also indicates which of the pictures (designated "A" or "B") was chosen more often by depressed personality types. It was predicted that these would be the same pictures preferred by the depressed subjects in this study; accordingly the scoring key for the PPT depression scale was based on this previously available information.

The 11 depression-scale items are randomly distributed throughout the 210 picture-preference test.

Differential Personality Inventory -- Form L. To test the first hypothesis (which, it will be recalled, bears on the validity of the PPT scale), the Differential Personality Inventory (DPI) served as a criterion against which the PPT depression trait-scale was evaluated. The DPI Form L consists of 300 statements requiring a response of "true" or "false" from the subject. Beginning with item 3 of the inventory, every fifteenth statement is a member of the Depression trait-scale, making a total of 20 items in the entire scale.

The DPI was developed by Jackson and Messick (1964) in an attempt to overcome some of the deficiencies of the best known personality inventory, the MMPI. Those deficiencies are primarily the lack of internal consistency of its scales,
### TABLE 2

**Picture-Preference Test Depression Scale**

<table>
<thead>
<tr>
<th>Test Item Number</th>
<th>Picture A</th>
<th>Picture B</th>
<th>Depressive's Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>A road going into distance with town in background</td>
<td>Same scene with no town in background</td>
<td>B</td>
</tr>
<tr>
<td>46</td>
<td>Boy putting a candy into his mouth</td>
<td>Boy looking through a telescope</td>
<td>A</td>
</tr>
<tr>
<td>63</td>
<td>A buxom woman</td>
<td>A normal size woman</td>
<td>B</td>
</tr>
<tr>
<td>70</td>
<td>A hospital (outside view)</td>
<td>Line of traffic waiting for train to pass</td>
<td>B</td>
</tr>
<tr>
<td>74</td>
<td>Window with shade pulled</td>
<td>Same with shade up showing field scene</td>
<td>A</td>
</tr>
<tr>
<td>81</td>
<td>Man drinking out of a bottle</td>
<td>Same, drinking out of a glass</td>
<td>A</td>
</tr>
<tr>
<td>118</td>
<td>Boy standing in front of father with fingers crossed behind back saying &quot;I promise&quot;</td>
<td>Landscape scene</td>
<td>B</td>
</tr>
<tr>
<td>121</td>
<td>Young boy feeding himself</td>
<td>Infant suckling at mother's breast</td>
<td>B</td>
</tr>
<tr>
<td>154</td>
<td>Person looking into mirror---indistinct reflection</td>
<td>A wagon with one wheel missing</td>
<td>B</td>
</tr>
<tr>
<td>198</td>
<td>Mother breast feeding baby</td>
<td>Mother bottle feeding baby</td>
<td>A</td>
</tr>
<tr>
<td>201</td>
<td>Fat boy</td>
<td>Thin boy</td>
<td>B</td>
</tr>
</tbody>
</table>
its saturation with response bias, and its use of the same item in more than one scale. Jackson and Messick have demonstrated excellent internal consistency, have eliminated response sets, and have avoided double use of items.

The DPI was validated by Jackson and Carlson (1973) by using a normative group (N=370) of university students. Two criterion scales were developed by the authors especially for that validation study: (a) a rating-scale filled out by the roommate, entitled "How well do you know your roommate?"; and, (b) a self-rating personality scale. For the total sample, the DPI scales correlated significantly ($p < .001$) with the corresponding scales of the roommate-rated scale and the self-report inventory. A multimethod factor analysis established that the trait-scales of the DPI "converged" with scales measuring the same traits by the other methods, but were "divergent" from scales measuring unlike traits. The construct validity of the DPI as a personality inventory was established by the findings of the study.

Kavanaugh (1975) gave further evidence for validity of the DPI in his findings from a study on 60 hospitalized psychiatric patients who took the test and were also observed and rated on Lorr and Vestre's Psychotic Inpatient Profile. Among other findings, Kavanaugh reported a product-moment correlation coefficient between the DPI Depression scale and the Lorr-Vestre Depressive-Mood scale which was significant at the .05 level. Kavanaugh also reported that psychiatric
patients obtained scores on the DPI Depression scale that were significantly higher than those of the Jackson and Carlson university sample.

**Personal Data Questionnaire.** A questionnaire was designed by the author to gather information on sex, age, marital status, educational level reached, occupational status and history of depressive and/or other psychological problems (see Appendix C for the complete questionnaire).


These symptom-rating constructs were derived from factor analyses of larger sets of symptom-descriptive items with the intent of developing primary symptom factors, each represented by a single 7-point rating scale from "not-present" to "extremely severe." The original intent was accomplished.

The scale has been found to exhibit reliability and
validity. Impressive validation and reliability data have been published (Overall and Klett, 1972) in a comprehensive review far too extensive to be included here.

The established validity for the identification of frequently occurring symptoms and behavior patterns, made the BPRS an appropriate instrument for use in the clinical interviews which were conducted to establish the diagnosis of clinical depression for the study's depressed group of subjects, and the absence of clinical depression for a non-depressed group.

Procedure

Each subject, either singly or in a group of 5 to 10, was shown the 210 items of the PPT by slide projector. The total viewing time allowed for each slide was 8 seconds. The entire PPT was administered in approximately 35 minutes.

The instructions given to all subjects were as follows:

In taking the PPT, your task is simply to choose which of the two pictures you prefer, filling in "A" on your answer sheet if you prefer the left-hand picture designated "A", and filling in "B" on your answer sheet if you prefer the right-hand picture designated "B". A sample item is now on the screen. You should fill in "A" on the answer sheet if you prefer the left-hand picture of the lamp and "B" if you prefer the right-hand picture of the tree. (Switch to sample "Y") Fill in "A" if you prefer the left-hand picture of a triangle and "B" if you prefer the right-hand picture of a square.

Each pair of pictures will be shown for 8 seconds. You should make a choice within that time period. Even if you find it difficult to make a choice, please make one anyhow. If you don't like either picture, choose the one you dislike the least.
Immediately following the PPT, all subjects were handed a copy of the Differential Personality Inventory (DPI) and given the following instructions:

You now have a test booklet entitled "The Differential Personality Inventory". There are a number of statements contained in the booklet to which you are asked to respond either "true" or "false". On the answer sheet, please fill in "T" for true and "F" for false. Please answer all questions carefully and honestly.

After the completion of both the PPT and the DPI, each subject was given a questionnaire which provided information regarding age, marital status, educational and occupational level, as well as a history or current symptomatology of depression or other psychological problems. All subjects in the study furnished these data.

An appointment was made with each of the 30 outpatients and 30 inpatients for an individual interview. The interview was accomplished within a 24- to 48-hour period following completion of testing. Each interview took approximately 20 minutes after which the author rated each person on the Brief Psychiatric Rating Scale (BPRS). The following statement indicates what the author generally said to explain the purpose of the interview:

We are trying to learn why people make certain choices between the pictures you looked at. In order to understand that, we need to know more about the people who take the test. Will you tell me about yourself?

Study of Interrater Reliability of BPRS

Of interest and practical concern is the question of
reliability of clinical ratings. The authors of the BPRS, Overall and Gorham (1962), recommend the use of the product-moment correlations between ratings made independently by two observers as the most acceptable manner in which to establish interrater reliability.

To evaluate the reliability of the author's scoring of the BPRS scales, the author and a staff psychologist simultaneously interviewed 20 hospitalized patients. After the interview, the author and the staff psychologist independently rated each patient on each of the 16 symptom variables comprising the BPRS.

The Pearson product-moment correlation coefficients for the author's and the staff psychologists' scale scores for the BPRS can be found in Table 3.
<table>
<thead>
<tr>
<th>BPRS Scale</th>
<th>$r$</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somatic Concerns</td>
<td>.69</td>
<td>.000</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.70</td>
<td>.000</td>
</tr>
<tr>
<td>Emotional Withdrawal</td>
<td>.61</td>
<td>.002</td>
</tr>
<tr>
<td>Conceptual Disorganization</td>
<td>.59</td>
<td>.003</td>
</tr>
<tr>
<td>Guilt Feelings</td>
<td>.78</td>
<td>.000</td>
</tr>
<tr>
<td>Tension</td>
<td>.45</td>
<td>.023</td>
</tr>
<tr>
<td>Mannerisms and Posturing</td>
<td>.05</td>
<td>.410</td>
</tr>
<tr>
<td>Grandiosity</td>
<td>.60</td>
<td>.003</td>
</tr>
<tr>
<td>Depressive Mood</td>
<td>.66</td>
<td>.001</td>
</tr>
<tr>
<td>Hostility</td>
<td>.46</td>
<td>.019</td>
</tr>
<tr>
<td>Suspiciousness</td>
<td>.76</td>
<td>.000</td>
</tr>
<tr>
<td>Hallucinatory Behavior</td>
<td>.87</td>
<td>.000</td>
</tr>
<tr>
<td>Motor Retardation</td>
<td>.64</td>
<td>.001</td>
</tr>
<tr>
<td>Uncooperative Behavior</td>
<td>.40</td>
<td>.039</td>
</tr>
<tr>
<td>Unusual Thought Content</td>
<td>.79</td>
<td>.000</td>
</tr>
<tr>
<td>Blunted Affect</td>
<td>.68</td>
<td>.001</td>
</tr>
</tbody>
</table>
CHAPTER III
RESULTS

Relationship of PPT Scale to DPI

Correlation study between PPT depression scale and DPI Depression scale. To test the author's hypothesis that there would be a correlation between the PPT depression-scale scores and the DPI Depression-scale scores, a Pearson product-moment correlation was computed between the two sets of scores.

Scores from the PPT depression scale did not correlate significantly with scores from the DPI depression scale, \( r(89) = .13, p = .11 \). These results fail to support the hypothesized relationship between keyed responses to the PPT measure of depression and keyed responses to the DPI measure of depression.

Relationship of PPT Scale to Behavioral Ratings of Depression

Correlation of PPT with BPRS scores. To further evaluate the existence of a correlation between the PPT depression-scale scores and a criterion measure, a Pearson correlation was computed between the 60 patients' scores on the PPT and their scores on the Depressive Mood Index of the BPRS (which, it will be recalled, had been obtained for every patient in the sample). The patients' scores on the PPT and their scores on the BPRS did not correlate significantly, \( r(58) = .16, \)
$p = .11$.

Comparison of Depressed and Non-Depressed Persons

Assignment to subgroups -- depressed, non-depressed and normal -- and comparison of PPT scores. The author's second hypothesis was that people who are currently experiencing, or have experienced in the past, clinical depression of such severity that professional help has been sought for its alleviation, would have higher scores on the PPT depression scale than those who had not. To test this hypothesis, the author assigned the 60 patients of the sample to either a "depressed" or a "non-depressed" group. The criterion for assignment to one or the other of these subgroups was the rating of each patient on the three indices of the BPRS that the authors of the BPRS, Overall and Gorham, believe indicate depression. Patients who obtained a score of 7 and above on the three combined scales -- Anxiety, Guilt Feelings and Depressive Mood -- or a score of over 3 on Depressive Mood alone, were considered "depressed" for the purposes of this study. As shown in Table 3, there was significant interrater agreement for these three scales ($p < .001$). Based on the author's chosen criterion, 42 patients were assigned to the "depressed" and 18 to the "non-depressed" subgroups. There were no BPRS scores for the non-patient subjects; however, the data of any who had acknowledged present or past psychological problems had already been eliminated from the study. The
remaining 31 non-patient subjects were assumed to be without depression or other psychological problems. The means and standard deviations of the PPT scores for the "depressed", "non-depressed", and "non-psychologically-troubled" groups are shown in Table 4.

TABLE 4
Comparison of Depressed, Non-Depressed, and Non-Psychologically-Troubled Groups on PPT Depression-Scale Scores

<table>
<thead>
<tr>
<th></th>
<th>Depressed Group (N=42)</th>
<th>Non-Depressed Group (N=18)</th>
<th>Non-Psychologically-Troubled Group (N=31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean PPT Depression Score</td>
<td>4.79</td>
<td>4.67</td>
<td>4.26</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.54</td>
<td>1.79</td>
<td>1.46</td>
</tr>
</tbody>
</table>

An examination of Table 4 shows that there is little difference in the PPT depression-scale scores among the three subgroups of subjects. A further evaluation of the group differentiation was obtained by computing an analysis of variance. The results are shown in Table 5.

The Tukey-Honestly-Significant-Difference (HSD) procedure was used to test all possible pairs of group means for significance at the .05 level. The results showed that no two groups differed significantly at the .05 level on the PPT depression-scale scores. The results of these studies fail to support the author's hypothesis that RPT depression-scale
scores would discriminate between depressed and non-depressed individuals.

TABLE 5
Analysis of Variance of PPT Depression-Scale
Scores of Depressed, Non-Depressed, and
Non-Psychologically-Troubled Groups

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>7.218</td>
<td>2</td>
<td>3.609</td>
<td>1.474</td>
<td>0.235</td>
</tr>
<tr>
<td>Within Groups</td>
<td>215.725</td>
<td>88</td>
<td>2.449</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Findings for Validity of DPI

Correlations of DPI and BPRS scores. The author evaluated the validity of the DPI Depression scale by computing a Pearson correlation between the DPI scores of the 60 patients in the sample and their scores on the Depressive Mood index of the BPRS. The results showed a significant correlation between the two sets of scores, \( r(58) = .47, p < .001 \).

Comparison of depressed and non-depressed persons. Table six shows the means and standard deviations of the DPI Depression-scale scores of the three subgroups of the sample -- depressed, non-depressed, and non-psychologically troubled.

Examination of these scores indicates that the DPI does successfully differentiate depressed from non-depressed patients and differentiates both groups from non-psychologically troubled individuals.
TABLE 6

Comparison of Depressed, Non-Depressed and Non-Psychologically-Troubled Groups on DPI Depression-Scale Scores

<table>
<thead>
<tr>
<th></th>
<th>Depressed Group (N=42)</th>
<th>Non-Depressed Group (N=18)</th>
<th>Non-Psychologically Troubled Group (N=31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean DPI Depression Score</td>
<td>10.71</td>
<td>5.50</td>
<td>1.87</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>5.50</td>
<td>5.20</td>
<td>2.92</td>
</tr>
</tbody>
</table>

An analysis of variance was computed to further evaluate group differentiation by DPI scores. The results are shown in Table 7.

TABLE 7

Analysis of Variance of DPI Depression-Scale Scores of Depressed, Non-Depressed, and Non-Psychologically-Troubled Groups

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1425.555</td>
<td>2</td>
<td>712.777</td>
<td>32.026</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1958.550</td>
<td>88</td>
<td>22.256</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Tukey HSD procedure was used to test all possible pairs of group means for significance at the .05 level. The results showed that all groups differed significantly at the .05 level.
Further Analyses of PPT Data

Comparison of outpatients, inpatients and non-patients.

The data were analyzed to determine if the 11-item PPT-Depression scale had the power to discriminate among the three original components of the sample -- outpatients, inpatients, and non-patients. Table 8 shows the means and standard deviations of scores obtained by the three subgroups.

TABLE 8
Comparison of Scores Obtained by
Outpatients, Inpatients, and Non-Patients
on 11-Item PPT Depression Scale

<table>
<thead>
<tr>
<th></th>
<th>Outpatients (N=30)</th>
<th>Inpatients (N=30)</th>
<th>Non-Patients (N=31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean PPT Depression Score</td>
<td>4.43</td>
<td>4.77</td>
<td>4.26</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.65</td>
<td>1.61</td>
<td>1.46</td>
</tr>
</tbody>
</table>

An examination of mean scores of the three subgroups indicates that the PPT depression scale has little or no power to differentiate between non-patients and either group of patients. A further analysis of group differentiation was obtained by computing an analysis of variance. The results are shown in Table 9.

All possible pairs of group means were tested for significance at the .05 level using the Tukey HSD procedure. No two groups differed significantly at the .05 level. The
results of the statistical analyses show that the PPT depression scale failed to differentiate among outpatient, inpatient, and non-patient groups.

TABLE 9
Analysis of Variance of PPT Depression-Scale Scores of Outpatient, Inpatient, and Non-Patient Groups

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4.057</td>
<td>2</td>
<td>2.03</td>
<td>0.816</td>
<td>0.445</td>
</tr>
<tr>
<td>Within Groups</td>
<td>218.668</td>
<td>88</td>
<td>2.48</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Further Analysis of Criterion Data

Comparison of DPI Depression-Scale scores obtained by outpatients, inpatients, and non-patients. The scores from the DPI Depression scale were analyzed separately to determine whether they would discriminate between the three components of the sample where the PPT had failed to do so. Table 10 shows the means and standard deviations of DPI scores obtained by the subjects in the three groups. An examination of the means shows a minor difference in the outpatient-inpatient groups, but a substantial difference between the means of the non-patients from the other groups.

A statistical evaluation of the difference was obtained by computing an analysis of variance. The results are shown in Table 11.
TABLE 10
Comparison of Scores Obtained by
Outpatients, Inpatients, and Non-Patients
on DPI Depression Scale

<table>
<thead>
<tr>
<th></th>
<th>Outpatients (N=30)</th>
<th>Inpatients (N=30)</th>
<th>Non-Patients (N=31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean DPI Depression</td>
<td>9.37</td>
<td>8.93</td>
<td>1.87</td>
</tr>
<tr>
<td>Score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>6.33</td>
<td>5.51</td>
<td>2.92</td>
</tr>
</tbody>
</table>

TABLE 11
Analysis of Variance of DPI Depression-Scale Scores
of Outpatient, Inpatient, and Non-Patient Groups

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1085.792</td>
<td>2</td>
<td>542.90</td>
<td>20.787</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>2298.312</td>
<td>88</td>
<td>26.12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Tukey HSD procedure was used and the results showed the difference between the non-patient group and both other groups to be significant at the .05 level. There was no significant difference between outpatient and inpatient groups.
An Attempt to Construct a New Depression Scale Using Data From the Scoring of the Entire 210-Item Pool

Purpose. At this point in the study, statistical analysis of the data had shown that the 11-item PPT depression scale lacked the validity the author had hoped to establish. It was decided to try out other items in the total 210-item pool, choose any item which correlated with one of the criterion measures of depression, and cross-validate all such items on a separate sample. In this manner, the author hoped to construct a new PPT depression scale.

Subjects. In order to provide a population for the cross-validation of any new depression scale, the patient sample of the study was enlarged to include 70 psychiatric patients from the Rudzinski study. Each of the 130 subjects was randomly assigned to one of two subgroups, "A" or "B", each then consisting of 65 subjects. Random assignment was accomplished by use of the random-numbers table after the patients were combined and numbered 1 to 130.

Analysis on Group A, Validation on Group B. The data from Group A were used to determine whether the scores of any item on the 210-item PPT would correlate with at least one of the four criterion measures: the DPI Depression scale, the BPRS Depressive-Mood index, the BPRS Anxiety index, and the BPRS Guilt Feelings index. There were 63 PPT items which correlated significantly (p < .05) with at least one
criterion measure.

A principal components analysis of the Group A scores on the four criterion variables was computed and yielded scores on the first principal factor for each subject in the group.

A Pearson correlation was then computed to determine whether a correlation existed between the obtained criterion factor-scores and those PPT items previously determined to have a significant correlation with at least one criterion measure. A total of 23 items reach the .05 level of significance.

To cross-validate the 23 items as a measure of depression, scores on the items were obtained from Group B data, as well as from the non-patient sample. A comparison of those means and standard deviations is shown in Table 12.

<table>
<thead>
<tr>
<th></th>
<th>Group B Depressed (N=43)</th>
<th>Group B Non-Depressed (N=22)</th>
<th>Non-Patient Sample (N=31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean of Potential Scale</td>
<td>12.4</td>
<td>12.6</td>
<td>11.8</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>2.2</td>
<td>3.0</td>
<td>3.2</td>
</tr>
</tbody>
</table>
Examination of Table 12 indicates that the proposed 23-item PPT depression scale has little or no power to differentiate among depressed patients, non-depressed patients, and people who claim to be free of depression or other symptoms.

Analysis on Group B, validation on Group A. The same statistical procedures were followed for Group B data. PPT items which were determined to have a significant ($p < .05$) correlation with the criterion measures of depression were correlated with Group B factor scores. The procedure yielded a total of 12 PPT items which correlated at the .05 level of significance.

To cross-validate these 12 items as measures of depression, scores on the items were obtained from the data of Group A, as well as the non-patient group, and compared as shown in Table 13.

**TABLE 13**

Comparison of Scores of Group A and of Non-Patients on Potential 12-Item PPT Depression Scale

<table>
<thead>
<tr>
<th></th>
<th>Group A Depressed (N=44)</th>
<th>Group A Non-Depressed (N=21)</th>
<th>Non-Patient Sample (N=31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean of Potential Scale</td>
<td>6.4</td>
<td>6.9</td>
<td>6.8</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.6</td>
<td>1.1</td>
<td>1.7</td>
</tr>
</tbody>
</table>
As can be seen from Table 13, the twelve PPT items failed to distinguish depressed from non-depressed, as well as patients from non-patients.

Efforts to establish validity for either potential depression scale were unsuccessful.
CHAPTER IV
DISCUSSION

The primary purpose of this study was to develop a depression scale from items currently contained in the 210-item Picture-Preference Test. The two most basic requirements for such a scale were: (1) scores on it were to differentiate depressed people from non-depressed people, and (2) it was to correlate significantly with a criterion measure, the Differential Personality Inventory. The author hypothesized that these two objectives could be reached by using as the basis for a new scale, eleven PPT items that Ryan (1976) had previously found to have a correlation with the DPI Depression scale.

For the purposes of the study, the author tested a sample of 30 psychiatric outpatients, 30 psychiatric inpatients, and 31 non-psychologically-troubled individuals. The patient groups were combined and assigned to subgroups of "depressed" or "non-depressed", based on the ratings they were assigned on the three BPRS scales believed to indicate clinical depression. BPRS ratings were assigned after a brief unstructured interview carried out by the author after the patient had completed all testing. To establish the author's reliability on the rating system,
twenty interviews were conducted simultaneously with a staff psychologist. There was significant (p < .05) interrater agreement on the three scales used to assign patients to the "depressed" subgroup.

As a measure of depression, the proposed 11-item PPT depression scale proved inadequate. Neither of the author's objectives was realized. There was no correlation with the criterion measure. Keyed responses on the PPT not only failed to distinguish depressives from non-depressives, but also failed to distinguish either patient group from individuals who are currently and historically free of depressive symptomatology.

Findings for the depression scale of the DPI are distinctly different from those summarized above for the PPT. The DPI did successfully differentiate depressed patients from non-depressed patients, and, further, it differentiated both patient groups from individuals who had no present or past experience of clinical depression.

In attempting to understand the success of the DPI in this study, the author examined the items that compose the depression scale. The re-examination confirmed, among other things, the author's original opinion that the scale is a true measure of personality and not merely a reflection of an individual's current, but perhaps temporary, state of being. Each item calls for the subject to examine and
report on his long-standing attitudes toward himself and others, or else to evaluate his feelings concerning long-past failure and prospects for success in the future. In short, all the items in the depression scale of the DPI seem to tap long-standing deeply ingrained attitudes of low self-esteem, feelings of past failure, and lack of confidence in the future.

It would be expected that people who react to life stresses with depression severe enough to require professional care, would be the same individuals who would respond in the keyed direction to items on the DPI Depression scale. By the same token, it would be expected that individuals who seem to cope with life stresses, evidencing a great deal of resiliency to the occasional, but inevitable, bouts of human depression, would respond to DPI depression-scale items in the non-keyed direction. These expectations proved to be borne out in this study. The group of patients who were judged to be "depressed" by their ratings on the BPRS, a symptom-behavior-rating format used in each patient interview, scored significantly higher on the depression scale of the DPI than did those patients judged to be "non-depressed." The group of individuals who reported no current symptomatology or past history of depression, scored significantly lower on the keyed responses than any other group.

Since the original PPT 11-item depression scale did not achieve the same differentiation of depressives from non-
depressives as the criterion DPI, it was decided to construct yet another depression-scale by a statistical analysis of responses to all PPT items in the total 210-item pool. Since any potential scale would require cross-validation studies, the author's sample was enlarged by the addition of 70 psychiatric inpatient subjects from the Rudzinski study (1979). The total 130-subject-sample was then divided into two subgroups -- 65 for a study group and 65 for a cross-validation group.

A potential 23-item depression scale was drawn from data of the study group and keyed responses from the non-study group were used for cross-validation purposes. The 23-item scale did not differentiate between depressives and non-depressives in the non-study group, nor did it differentiate the non-patient group from either depressive or non-depressive groups.

The groups (study group and cross-validation group) were then reversed and a potential 12-item depression scale was drawn from the new study group. Validation of the scale on the non-study group, as well as the non-patient group, was unsuccessful.

The findings from the author's total study quite naturally bring to mind questions regarding the feasibility of using a picture-preference test to differentiate depressives from non-depressives. Can asking individuals to choose
between pictures of common objects and events adequately distinguish one group of individuals from another? The conclusion reached by this author is that it can. The failure in this study to develop a depression scale seems to lie, not with the PPT format, but rather with the approach used in the construction of such a scale.

The scores of student on the 11 items from Ryan's study correlated with scores they obtained on the depression-scale items of the DPI. This was the basis for their use in the present study. The 11 items, however, did not correlate with the DPI measure in the author's study. This does not necessarily indicate a failure of the PPT format. It does, however, clearly demonstrate the importance of cross-validation studies when developing new scales, as has been discussed previously by Auld and Eron (1953), by Butcher and Tellegen (1978), and by others.

The failure to develop a PPT depression scale from any of the 210 items contained in the PPT item-pool demonstrates the ineffectiveness of the empirical approach to test construction, or, in this case, scale construction. The PPT item-pool consists of items which represent a diverse domain of personality traits. None of the items, however, has an underlying theoretical rationale for the construct of depression. It is not surprising that certain of the items might have an appeal for an individual prone to depressive disorders;
however, responses to any such items would not necessarily be specific to the domain of depressive traits. The responses could, instead, embrace an appeal to other types of psychological distress which the items were originally constructed to measure, as well as to depression. Obviously a better approach is needed.

Rudzinski demonstrated in his study that PPT thought-disorder items derived on a rational basis far surpassed those derived on an empirical basis. Rudzinski created 31 items based on a theoretical rationale of thought-disorder characteristics. Rudzinski's 31-item scale successfully discriminated among thought-disordered patients, non-thought-disordered patients, and non-patients.

The author believes that by using the rational method, an effective depression scale can be developed using the picture-preference-test format. Construction of new items for the scale will be necessary, and should be guided by consideration of theory about the dynamics of depression. Specifically, the new scale should include items that would be expected to measure a characteristic set of feelings that are aroused in a person when confronted by, among other things, a real or imagined loss or threat of loss, a disappointment, a failure, or reminders of his powerlessness and helpless-

The initial effort at developing a PPT depression scale,
in which the present author was involved in the study reported here, has unquestionably failed. The effort was a necessary step, however, in achieving the original goal of a better test to measure personality traits of individuals prone to depressive disorders. This research has shown that an existing test, the DPI, can differentiate depressives from non-depressives, and can also provide some insight into long-standing characteristics of a depressed person. However, the present author experienced certain drawbacks with the self-report format of the DPI in the clinical setting that she did not experience with the picture-preference format. In the introductory section of this paper, I mentioned several shortcomings of the self-report tests. Of those shortcomings, at least two are major drawbacks in the conduct of research such as reported here. First, because of the length of the DPI (which is considerably shorter than the better-known MMPI), patients often become tired and discouraged. Some fail to complete the test because of these factors. Secondly, many of the self-report items call for complex decisions. Patients, with poor concentration and diminished decision-making ability, have great difficulty. They tend to become highly anxious and the result is usually hostility toward the test and the researcher. These drawbacks, which are typical of the self-report type test, were not experienced with the administration of the PPT.
This study has suggested better ways to construct a depression scale. The experience gained in the study indicates that for such a scale, the PPT continues to be the format of choice.
APPENDIX A

REPRODUCTION OF SIX REPRESENTATIVE
PICTURE-PREFERENCE TEST ITEMS
APPENDIX B

INFORMED CONSENT FORM
INFORMED CONSENT FORM

In an effort to increase our knowledge and understanding of the human problems for which we are offering services, we encourage meaningful research and study which directs itself toward these goals.

You have an opportunity to take part in such a study. Some of the information gained from this study might be of help to you.

In agreeing to participate in such a study, you understand that due to the nature of the variables which are being studied, it will not be possible to inform you completely at this time about the purpose of the procedures to be followed. It is understood, however, that a complete explanation of the procedures and purpose of the study will be given to you if you ever request it after the termination of the study as a whole. It is further understood that by participating in this study you will in no way put yourself in any abnormal physical or mental danger.

The study consists of taking two very simple tests. One test involves making a choice "A" or "B" between two pictures which will be simultaneously projected onto a screen before you. You will be furnished an answer sheet for recording your choice. The second test consists of reading a series of statements which describe various characteristics of the personality. You will be asked to check an answer sheet "true" if you think the statement applies to you and "false" if you think it does not apply to you. More explicit instructions will be given at the time you take the tests.

Since no verbal responses are necessary, it is possible to test two or more people at the same time. After the testing, however, the person conducting the study will make an appointment to see you individually for a brief interview. At the time of the interview, you will be invited to ask any questions you may have concerning the project.

All test results will be kept in strictest confidence, in accordance with ethical and legal standards governing your right to confidentiality.

If you desire to participate in this procedure, please sign below.

__________________________________________
Date

If you desire the examiner to share the test results with your mental health worker at this facility, please sign below.

__________________________________________
Date
APPENDIX C
PERSONAL DATA QUESTIONNAIRE
NAME ______________________________________ DATE: ____________________

Present Age  Current Marital Status
--- Below 20  --- Single
--- 20-29  --- Married
--- 30-39  --- Separated
--- 40-49  --- Divorced
--- 50-59  --- Widowed
--- Over 60

Sex
--- Male
--- Female

Depressive Episodes
--- No past episodes that required professional care
--- Single previous episode that required care
--- Multiple previous episodes that required care
--- I am currently depressed and feel I need professional assistance

Other Psychological Problems
--- I have received professional care for psychological problems other than depression
--- No psychological problems in the past that required care

Education Level
--- Less than seven years of school
--- 7th, 8th, or 9th grades completed
--- 10th or 11th grades completed
--- High-school graduate
--- Some college
--- College graduate
--- Graduate professional training (beyond college)

Occupation
--- Are you employed? If so, what work do you do? (Please describe the job -- for instance "telephone installer" rather than just "Michigan Bell".)

--- If you are not employed, or a student, please list the occupation of the head of the household.
REFERENCES


REFERENCE NOTES

VITA AUCTORIS

Mary Catherine Noel was born in Lenoir, North Carolina to Rose Griffin and Julius Victor Underdown. She graduated from Lenoir High School in 1941. In 1976 she received her Bachelor of Arts Degree, cum laude, from Oakland University in Rochester, Michigan. Since September of 1976, she has been enrolled as a graduate student in clinical psychology at the University of Windsor, Windsor, Ontario, Canada.

Mary Catherine is married to Conrad George Noel and they live with Henri and Tina in Oakland County, Michigan where this study took place.