The Relationship between the DSM-III Borderline Personality Disorder and the Minnesota Multiphasic Personality Inventory

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THE RELATIONSHIP BETWEEN THE DSM-III BORDERLINE PERSONALITY DISORDER AND THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

by

John Thomas Heroldt

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Doctor of Education
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and Counseling Psychology

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Psychotherapeutic efforts with borderline patients have been frustrated for many years because identification of the disorder has been vague, and because the etiology of the disorder has been unknown. Without adequate diagnosis and knowledge of the etiology, it has been impossible to design treatment strategies. The basis for undertaking this project centers on the amelioration of this basic diagnostic consideration.

The Minnesota Multiphasic Personality Inventory responses of 50 patients, 16 men and 34 women, meeting the Diagnostic and Statistical Manual of Mental Disorders (APA, 1980) criteria for a borderline personality disorder were compared to a mixed diagnostic group of 50 patients, 22 men and 28 women. The profiles were obtained from the outpatient and inpatient charts in a midwest community mental health center. The comparison of the two groups was made using univariate F tests and discriminate analysis.

Although the two groups produced similar profile
patterning, the borderline patients showed a more elevated profile, with significantly higher elevation on seven of the ten clinical scales: four at the .01 significance level, schizophrenia, paranoia, psychopathic deviate, and psychasthenia, and three at the .05 level of significance, mania, social introversion, and hysteria. The MMPI profiles of the borderline patients suggest pathology in the form of impulsivity, unconventional thinking, poor interpersonal relationships, suspiciousness, problems with authority figures, and confusion.

The borderline patients also differed from the non-borderline patients on one of the three validity scales, scoring higher on the F scale, significant at the .01 level of significance.

The female borderline patients, as compared with the non-borderline female patients, showed significantly higher elevations on five of the ten clinical scales. The female borderline group showed a mean MMPI profile of 8-4-2. The male borderline patients, as compared with the non-borderline male patients, showed significantly higher elevations on two of the ten clinical scales. The male borderline group produced an 8-4 two-point code.

It can be concluded that borderline patients can be accurately discriminated from non-borderline patients by the use of the MMPI. The borderline patients show significantly elevated mean profiles and endorse items leading to a distinctive diagnostic codetype of 8-4-2.
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John Thomas Heroldt
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CHAPTER I

THE PROBLEM AND THE BACKGROUND

The Problem

Psychotherapeutic efforts with borderline patients have been frustrated for many years because identification of the disorder has been vague, and because its cause is unknown (Masterson, 1976). Without adequate diagnosis and knowledge of the etiology of the disorder, it has been difficult to design treatment strategies.

Masterson suggests three reasons for the ambiguity: first, a lack of research; second, the emphasis of the clinician on descriptive and nosological considerations rather than on Masterson's emphasis, the developmental and psychodynamic; and third, the focus by the clinician on instinctual theory and oedipal conflict between the intrapsychic structure of the id, ego, and superego, rather than on developmental considerations (Masterson, 1976).

Since the 1950s considerable literature has emerged which has attempted to define the manifestations of borderline pathology. Unfortunately the borderline phenomenon has been "clothed" in a myriad of labels.
and diagnostic descriptions that enabled skeptics to question the validity of the borderline personality as a diagnostic entity. The borderline concept has been charged with being a diagnostic imposture when other, more clearly defined diagnostic entities, such as schizophrenia and the affective illnesses, disguise their true identities (Berg, 1985). As will become clear later the term borderline has served as a "wastebasket" diagnostic category, bereft of content and lucid definition. A profusion of diagnostic nomenclature now exists which further complicates and confuses those skeptics who already question the validity of the borderline concept.

Because of confusion within the diagnostic arena in recent years, the field has seen an interest in defining specific diagnostic criteria related to the borderline personality disorder. The issue has been approached from various viewpoints including: (1) the use of structured diagnostic interviews (Kernberg, 1977, Gunderson, Kolb, & Austin, 1981); (2) psychological testing (Carr, Goldstein, Hunt, & Kernberg, 1981; Widiger, 1982); and (3) diagnostic criteria (American Psychiatric Association, 1980; Kolb & Gunderson, 1980). The use of psychological test results in the diagnosis of the borderline personality disorder has emphasized characteristics through devices like the
Wechsler Adult Intelligence Scale-Revised (WAIS-R) or projective measures like the Rorschach (Patrick, 1984). The use of the Minnesota Multiphasic Personality Inventory (MMPI) in the diagnosis of the borderline personality disorder should also be investigated (Patrick, 1984). Defining valid and reliable criteria for the diagnosis of the borderline personality remains a clinical enigma (Snyder, Pitts, Goodpaster, Sajadi, & Gustin, 1982). Psychological testing has proven invaluable in differentiating the psychopathology of a myriad of neutral disorders, but the literature on the psychological testing of the borderline patient is sparse (Snyder et al., 1982). Previous reports have emphasized the use of projectives and some structured tests. Snyder et al. (1982) suggested the use of the MMPI (1970) delineating the borderline personality disorder from other disorders.

From evidence presented in the previous paragraph, it is concluded that the ability to clearly diagnose the borderline patient is a confusing and arduous task. The basis for undertaking this project centers on the amelioration of this basic diagnostic consideration. The issues related to psychological testing of the borderline patient clearly have not been fully studied. The present study was designed to clear up the confusion surrounding valid and reliable criteria for
the diagnosis of the borderline personality disorder, specifically with the use of the MMPI.

Statement of the Problem

Several diagnostic issues should be considered when assessing the borderline patient (Berg, 1985). First, low level borderline patients, or those with tangential thought processes are usually referred for assessment of whether a psychotic illness exists, and if psychosis is present, how severe the psychosis is. Generally, the symptoms exhibited are poor interpersonal relationship skills, suicide attempts, or self-mutilating behaviors. In the midst of these symptoms this level of borderline patient can also maintain limited amounts of coping mechanisms. The assessment of a psychotic illness or a personality disorder is important for the development of the treatment plan of the patient. For example, it would determine if medication is warranted or whether the potential for further regressive behavior exists (Berg, 1985). Rather than simply labeling the illness of the patient, the task of assessment is to further define the relative strengths and weaknesses of the patient to further define the appropriate treatment strategies (Berg, 1985). One of the goals, then, of assessment is to determine whether the patient can withstand a certain type of treatment strategy.
The higher level borderline patient is referred for assessment to help understand the subtle thought disturbance, or lapses in judgment (Berg, 1985). Berg states, "These borderline individuals often instill a mild anxiety and unease in the clinician, who is perplexed and unable to determine the significance of the faint cracks in ego functioning " (p. 22).

A third assessment question comes from the clinician who is unable to diagnose, develop an appropriate treatment strategy, or is so confused that he/she offers a vague referral question (Berg, 1985). In this case the role of assessment is to help the referral source articulate his or her concern which facilitated the referral in the first place in order to identify the underlying diagnostic concerns (Berg, 1985).

Traditionally, projective tests have been regarded as being more sensitive to borderline pathology than objective tests (Abramowitz, Carroll, & Schaffer, 1984). Two studies have been held up to dispute the traditional mindset. First, Widiger (1982) concluded no solid evidence exists for the premise that only structured tests can detect borderline pathology. Second, although the MMPI has a dichotomous response format, a substantial minority of the items that compose the clinical scales are perceived to be "subtle" rather
than "obvious" with respect to the intended symptom domain (Christian, Burkhardt, and Gynther, 1978). This is true to the degree that the subtle items in the MMPI meet Frank's (1970) criterion for stimulus ambiguity. Even though the MMPI may be less structured, it may also be more sensitive to borderline pathology than originally believed (Abramowitz et al., 1984).

The MMPI (1970) is a highly suitable instrument for identifying the borderline patient because the personality inventory is standardized, easily administered, and has adequate reliability and validity. The MMPI also covers areas related to emotional instability, self-destructiveness, stormy interpersonal relationships, impulsivity, and an altered sense of reality. These are areas that most clinicians have come to associate with borderline pathology.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-III) of the American Psychiatric Association (1980) was selected to identify the borderline patient because of its objective nature and criteria. It was also selected because of the universal nature of its use. It is this same manual which has increased the reliability and consistency of psychiatric diagnosis in this decade.

The present study examined the MMPI characteristics of the DSM-III (APA, 1980) borderline personality
disorder. It further proposed to determine whether patients suffering from the borderline personality disorder presented an MMPI profile which is unique and could differentiate these patients from the profiles of patients suffering from "other" psychiatric disorders.

Limitations of the Study

First, questions regarding the usefulness of the MMPI in diagnosing the borderline personality disorder have been raised by clinicians and theoreticians. Traditionally, projective tests have been regarded as being more sensitive to borderline pathology than objective tests (Abramowitz et al., 1984). Widiger (1982) concluded that no solid evidence exists for the premise that only structured tests can detect borderline pathology. Some questions, however, still linger, even after research like Widiger's has proven that the traditional mindset is an archaic one.

A second limitation exists in the inability to entirely control the conditions under which the MMPI was administered. First year graduate students who take Advanced Assessment are taught that the MMPI should be administered to a patient in the clinic and is not to be taken home. It is given in the clinic to (a) avoid having the patient linger too long over any one question, and (b) to monitor the kind of stimuli
impinging upon the patient during the assessment situation.

Significance of the Study

While the term "borderline" has become part of the psychological nomenclature, it remains an ambiguous and difficult disorder to diagnose due to the variety of symptoms that are portrayed by the patient. It would be a distinct advantage to know what kinds of indicators, based on the MMPI, a clinician could use to resolve this diagnostic dilemma.

Because the treatment of the borderline patient is, and should be, highly structured in regard to its interventions (Masterson, 1976), the sooner the diagnosis can be made, the sooner an appropriate strategy can be employed. One of the values, then, of this study is to help the clinician begin to diagnose and identify the borderline personality based on criteria within the MMPI profile. The MMPI was selected for its standardization as a psychometric test given routinely on admission to many psychiatric facilities. Another benefit in using the MMPI is the cost factor involved. Compared to other personality indicators which must be computer scored, the MMPI is inexpensive to administer. The MMPI requires less training to administer and is less time consuming to score and interpret.
Research Questions

Many diverse and complex questions with regard to the borderline phenomenon exist. Examples include: Is the nomenclature appropriate to describe this patient? How do you diagnose this patient? What is the etiology of this disorder? and Are tools available to help the clinician identify this patient before an inappropriate treatment strategy has been selected for this type of patient? This list is by no means an exhaustive representation of the many questions which still exist related to the borderline condition.

The present study was undertaken to explore the following five questions: (1) What MMPI profile is most prevalent among a known population of borderline patients? (2) Are these profiles significantly different from a non-borderline population of patients? (3) Why would this profile, if one exists, be more prevalent than other profiles? (4) What can the MMPI tell the clinician about the profile of the borderline? and (5) What psychological traits and characteristics of borderline patients are described by the MMPI?

Overview of the Study

In summary, Stern was the first to use the term borderline (Gunderson & Singer, 1975). Although the
term borderline has become more common since its initial use, disagreement over the differential diagnosis has not subsided. Recently, that discussion has been displaced by argument over the dynamics of the disorder. The increasing frequency of borderline patients entering inpatient facilities and returning to outpatient facilities, and the ever mounting confusion about diagnosis, makes it imperative that additional methods be developed for accurate identification of this patient group. Several methods have been suggested including: structured diagnostic interviews, diagnostic criteria and psychological tests. It is this last method, specifically the MMPI, that this study was concerned with in identifying the borderline personality disorder.

Motivated by influential theoretical works and the DSM-III, the borderline personality disorder has emerged as an area of major focus and controversy (Kernberg, 1975; Masterson, 1979). Questions regarding the reliability and validity of the borderline syndrome as a diagnostic entity exist (Abramowitz, Carroll, & Schaffer, 1984). If the syndrome is internally consistent, then those patients diagnosed as such should manifest greater symptom homogeneity than a diagnostically heterogeneous group (Abramowitz et al., 1984). If the syndrome is valid, then patients
receiving this diagnosis should differ significantly in type and degree of symptomatology from patients receiving an "other" psychiatric diagnosis.

Definition of Terms

Personality disorder is a diagnostic category in which the patient has a problem in social adjustment which is not as serious as the psychotic disorders, but which includes inadequacies in motivational and emotional processes. Psychosis, on the other hand, is a severe mental disorder characterized by disorganization of thought processes, disturbances in emotionality, disorientation to the three spheres of person, place, and time. Some patients exhibit hallucinations and delusions.

The borderline personality disorder is that personality disorder represented by a more or less characterological organization. This personality disorder is characterized by instability and lability of affect; these patients can be impulsive and at times may appear psychotic.

The Minnesota Multiphasic Personality Inventory (1970) is a 566 item, self-administered, and empirically validated personality inventory.

A defense mechanism is any behavior pattern which protects the psyche (mind) from anxiety, shame, or
guilt. One of the defense mechanisms identified in this study is: intellectualization, that is the control of affects and impulses by thinking about them. It is a way of thinking which is void of any feeling, in order to defend against any anxiety due to inappropriate impulses. In intellectualization, feelings and emotions are ignored. Projection is the attribution of one's own unacknowledged feelings to others. It can include prejudice, rejection of intimacy through suspiciousness, and hyper-awareness to external danger. Acting out is the direct expression of an unconscious wish or impulse to avoid being conscious of the present feelings.

Organization of the Study

In Chapter II the literature review, is presented, including history of the term borderline, clinical characteristics and diagnostic criteria of the borderline syndrome. Also included in Chapter II is a presentation on the relationship between the MMPI and the borderline personality along with a historical review of the MMPI. Chapter III contains the method of the present study, including population characteristics, sampling procedures, and statistical methods used. Chapter IV contains the results of the study. Chapter V contains a summary of the study, conclusions, and
recommendations for further research.
CHAPTER II
LITERATURE REVIEW

History of the Term Borderline

As was stated earlier, Stern was the first to use the term borderline (Gunderson & Singer, 1975). The "true" beginning of the concept and term can be traced back to the "as-if" personality described by Deutsch in 1942, the ambulatory schizophrenic described by Zilboorg in 1941, and latent schizophrenia, introduced and developed by Rorschach, Bleuler, and Feder (Gunderson & Singer, 1975).

Latent schizophrenia was validated by Bleuler in 1911 to describe persons whose conventional behavior hid underlying schizophrenic behaviors. Ambulatory schizophrenia, a term made popular by Zilboorg in 1941, was developed in opposition to the therapeutic nihilism that existed within the latent schizophrenic term developed by Bleuer. Deutsch's article on the "as-if" personality established another classification by describing persons whose social behavior hid highly disturbed personal interrelationships (Gunderson & Singer, 1975).

In 1953, Knight, in an article entitled "Borderline States" wrote, "the term borderline was applied to
patients who exhibited symptoms described as both psychotic and neurotic but could not be clearly diagnosed as neither psychotic nor neurotic" cited in (Gunderson & Singer, 1975, p. 1). Before and after Knight's paper was introduced to the psychological world, many terms were introduced to describe these patients who seemingly fell into the middle of the diagnostic continuum. As quickly as these terms were introduced, they were also retired in favor of the present term. Among the terms introduced included: preschizophrenic, schizophrenic character, abortive schizophrenia, pseudopsychotic schizophrenia, psychotic character, subclinical schizophrenia, borderland, and occult schizophrenia (Gunderson & Singer, 1975). The largest threat to the present term came from the term pseudoneurotic schizophrenia. This term gained popularity on the east coast because of the influence of its originators, Hoch and Polatin, both from New York City (Gunderson & Singer, 1975). The originators of this term suggested replacing the term borderline with their term because the new term specified a psychopathological condition demonstrated by a combination of pan-neurosis, pan-anxiety, pan-sexuality, and schizophrenic symptoms (Gunderson & Singer, 1975). Even with the support of the eastern part of the country this term, too, gave way to the term borderline.
Since Knight's article appeared, the literature on the borderline personality has continued to expand. Up to 1955 only 25 articles existed on the borderline personality (Gunderson & Singer, 1975). That number has risen considerably in the last 30 years. Even though more has been written recently about this personality disorder, the confusion about how to describe the personality disorder remains.

Clinical Characteristics: A Psychoanalytic Perspective

The borderline disorder, as evident from the last section, has a long history in psychiatry. It is a rare occurrence to find it described in any detail in psychiatric texts (Schmideberg, 1959). In the last two decades, as interest in the area of ego psychology grew, the borderline disorder became of greater interest in the psychoanalytic community. As the interest grew, so did the understanding of the condition. As the confusion abated, a consensus among the psychoanalytic community developed that the borderline pathology was neither neurotic nor psychotic, but rather a specific and stable form of pathological ego, in Masterson's terms, a developmental arrest, or ego fixation, (Masterson, 1976).

Giovacchini (1967) observed that clinical manifestations within the borderline distributed
themselves according to their severity along a continuum from the least severe, resembling more neurotic patients, to the most disturbed low level borderline case, which closely resembles the psychotic condition. At the neurotic end of the continuum were those patients with higher order defense mechanisms such as intellectualization, projection, and projective identification but these patients did not demonstrate the labile affect and severe expression of anger. In the middle of the continuum were the majority of the patients who were more labile with respect to affect, and stability, and in addition were simply more actively disturbed. These patients in the middle of the continuum further acted out more through self abusive acts like alcohol and drug use, over eating, or excessive sexual involvement.

On the other extreme, resembling the psychotic, were those patients who demonstrated paranoid ideations, feelings of emptiness, extreme lability in affect, and poor ego defenses.

Giovacchini (1967) also believed the basis of the clinical picture of the borderline was the developmental arrest, mentioned earlier. Basically, he agreed with the psychoanalytic community. These defects of ego prevented the patient from dealing effectively with their internal and external world. The defenses used to
defend against the memories of their traumatic development were of little help in defending against the realities of the adult world.

Ekstein and Wallerstein (1955) described their idea of ego fixation in adolescents and children. They correlated the ego of an adolescent to that of a thermostat, in that a thermostat which is operating appropriately can maintain a uniform temperature in a room despite external changes, analogous then to the ego of a neurotic which fluctuates to exert control over the individual when the external forces impinge to disrupt psychic homeostasis of the individual (Ekstein and Wallerstein, 1955). A malfunctioning thermostat leads to drastic fluctuation to incidental external changes leading to unpredictable regulation and control as in the case of the borderline patient.

Ekstein and Wallerstein (1955) further hypothesized that the borderline ego fluctuates many times throughout a single day, sporadically exerting control, but for the most part keeping the borderline in a state of lability.

Rinsley (1974), working with adolescent inpatients also emphasized the underlying dynamic of the borderline as being a developmental arrest, or ego fixation. Rinsley (1974) was one of the first to describe the features of the fixated ego, the benefits of separation and individuation, and the use of intensive analytically oriented psychotherapy for the borderline patient.
Diagnostic Criteria of the Borderline

The American Psychiatric Association (1980) describes a person as borderline if they exhibit at least five of the following symptoms: (a) impulsivity or unpredictability in at least two areas that are potentially self-damaging, e.g., spending, sex, gambling, substance use, shoplifting, overeating, or physically self-damaging acts; (b) a pattern of unstable and intense interpersonal relationships, e.g., marked shifts of attitude, idealizations, devaluation, and manipulation; (c) inappropriate, intense anger or lack of control of anger; (d) identity disturbance manifested by uncertainty about several issues relating to identity, e.g., self-image, gender identity, long-term career choice, values, loyalties, and friendship patterns; (e) affective instability, marked shifts from normal mood to depression, irritability, or anxiety, usually lasting a few hours and only rarely more than a few days with a return to normal mood; (f) intolerance of being alone; (g) physically self-damaging acts, e.g., suicidal gestures, self-mutilation, recurrent accidents or physical fights; and (h) chronic feelings of emptiness and boredom.

Kernberg (1977) referred to borderline personalities as a group of individuals whose diagnosis falls on a continuum between neurosis and psychosis.
Kernberg (1977) identified four criteria which characterizes borderline adults. They are, (1) identity diffusion, (2) an ego structure consisting of a reliance on primitive defense mechanisms, (3) the maintenance of reality testing, and (4) various ego weaknesses, or poor superego integration. The following represents a more in depth view of Kernberg's four criteria.

Identity diffusion is divided into the self-image and the object image. A poorly integrated self can be exemplified by a patient who feels empty and alone. The emptiness may be due to the lack of an inner definition of the self. Object image development is seen in the patient's relationships. Impoverished relationships are a sign of poor object image and the opposite is also true.

Kernberg viewed a primitive defense system as an essential criterion for the diagnosis of the borderline personality disorder. Kernberg (1975, 1976, 1977) stated the primitive defense structure protects the individual by allowing both parts of the conflict to stay in awareness, but not allowing the conflicting portions to converge, thereby, protecting the ego. In reality, however, the ego becomes weakened and the effectiveness at adapting is diminished. Examples of primitive defensive structures are splitting, denial, avoidance, and projection.
Reality testing refers to the susceptibility of the patient to experience psychotic episodes. Any drastic change in affect would be indicative of non-specific structural characteristics. More specifically, it is a manifestation of ego weakness. Any tendency for self-punititive behavior is indicative of a lack of superego integration.

Masterson (1983) identified six criteria which he felt established the borderline personality: (1) the presence of ego defects, e.g., poor reality testing exemplified by the presence of hallucinations, poor impulse control, e.g., any self-damaging act such as superficial cutting or shoplifting; (2) the presence of primitive ego defense mechanisms, e.g., splitting, denial, projection, and avoidance; (3) the presence of a specific type of narcissistic personality, e.g., poor self-image, and feelings of emptiness; (4) the existence of symptoms which are correlated with lower-level structures, e.g., hallucinations, or upper-level structures, e.g., problems of intimacy; (5) the appearance of split object relations unit; and (6) the existence of the borderline triad namely, primitive defense followed by confrontation by the therapist, followed by depression as a defense. Kohut believed only through a trial basis in therapy will the diagnosis of borderline personality be confirmed (Chatham, 1985).
Kohut believed that symptoms like rage attacks and impulsivity, both of which are believed to be symptomatic of the loss of self-cohesion, are tantamount for the diagnosis of borderline personality.

Gunderson and Kolb (1978) identified six criteria which they used to qualify the borderline personality disorder: (1) heightened affectivity; (2) disturbed close relationships, e.g., devaluation and manipulation of a relationship; (3) high socialization, often exhibited by an intolerance for being alone; (4) impulsivity; (5) manipulation; and (6) mild psychotic experiences which usually take the form of dissociation, paranoid ideas, regressions, and the absence of any severe or wide spread psychotic symptoms.

Spitzer, Endicott, and Gibbon (1979) derived eight criteria for a diagnosis of borderline personality: (1) anger; (2) unstable affect as demonstrated by depression, irritability, and anxiety; (3) chronic feelings of emptiness and boredom; (4) identity disturbance; (5) unstable intense relationships, e.g., devaluation and manipulation; (6) intolerance of being alone; (7) impulsivity; and (8) physically self-damaging acts, e.g., mutilation and suicidal gestures.

Goldstein (1985) suggested specific and characteristic countertransference reactions in the therapist are evoked. These reactions usually take the
form of anger, resentment, or feelings of being manipulated.

Chatham (1985) has added to an already extensive list of authorities on the subject of diagnostic criteria of the borderline personality. Chatham (1985) suggested atypical, intense, and early transference can occur. These are characterized by unusually strong affect along with contradictory often unintegrated attitudes toward the therapist. Chatham (1985) also stated the life history is likely to show evidence of impairment from early development on.

It should be more cogent now why such confusion exists in the field of psychology regarding the diagnostic criteria of the borderline. At last count eleven different theorists and authorities have written about criteria that should be followed for the purpose of diagnosing the borderline. Some of these authors have similar criteria, while others are on the opposite end of the continuum. Three theorists, Grinker, Sheehy, and Perry have written extensively on the diagnostic criteria of the borderline but they were not included to reduce repetition.

It is the goal of this student to decrease the confusion by producing a profile of the borderline based on a widely used diagnostic tool, namely, the Minnesota Multiphasic Personality Inventory.
Relationship Between the MMPI and the Borderline Personality

The current research on the relationship between the MMPI (1970) and the borderline personality disorder is minimal. What research has been done has utilized small sample sizes. This student's goal is to increase the sample size to obtain statistically significant results.

Two studies were conducted using the short form of the MMPI (1970), known as the MMPI-168 because it utilizes only the first 168 items of the 566 that make up the MMPI. Lloyd, Overall, Click, and Kinsey (1983) utilized 27 borderline patients. The diagnosis was based on DSM-III (APA, 1980) criteria. They compared these 27 patients with 178 other patients. The sample consisted of 136 women and 69 men with the following age distributions: 3% were less than age 20; 22% were between the ages of 20 and 24; 25% were between 25 and 29; 30% were between 30 and 39; 15% were between 40 and 49; and 5% were ages 50 to 59. Thirty-three percent of the sample were single, 17% were divorced, 6% were separated, and 1% were widowed. Twelve percent had less than a high school education. Twenty-six percent had a high school diploma, 33% had some college credit, and 11% had more than four years of college. Lloyd et al. (1983) found the two groups evidenced similar profiles.
However, the borderline patients showed a more elevated profile, with significantly higher elevations on three of the clinical scales, psychopathic deviate (4), paranoia (6), and schizophrenia (8). They concluded the self-report responses of the borderline patients suggest pathology in the specific areas of impulsivity, hostility, suspiciousness, and unconventional thinking.

An individual item analysis was also performed to identify more specific differences in borderline and non-borderline patients. Thirty-four items discriminated between the borderline and non-borderline patients at the .05 significance level. Sixteen of the 34 items successfully discriminated between the two patient groups at the .01 significance level. The authors grouped these 16 items into several content categories with an eighth miscellaneous category. The eight categories follow. First, somatic distress in the form of stomach discomfort or a tight band experience around the head. Second, depression and hopelessness including those items where the patient endorsed items about feeling blue, useless, and hopeless. Third, irritability and aggression which indicated borderline patients felt grouchy, and often felt like provoking someone into a fight. The borderline patient further felt like injuring himself/herself or someone else. He acknowledged oppositional behavior and impulsive
tendencies to participate in dangerous or shocking situations along with an impatience with interruptions. Fourth, the borderline patients were more likely to have interpersonal difficulties demonstrated by the endorsement of items indicating that people did not seem to understand them and that their feelings were easily hurt. Interpersonal distrust was also characteristic of the borderline, as they expressed concern that someone may have it in for them. Fifth, the borderline group were more prone to produce guilt feelings than the non-borderline group. Sixth, sleep disturbance: borderline patients were more likely than the non-borderline group to endorse items having to do with interrupted sleep and nightmares. Seventh, unusual experiences, indicated in the borderline group by the endorsement of items indicating the occurrence of peculiar and strange experiences or seeing animals or people that others do not. Last, miscellaneous, which included items regarding a fear of high places, a proclivity to day dream, and a persecutory nature.

The authors concluded borderline patients can be differentiated from non-borderline patients on the basis of self-report strategies. The borderline patients consistently endorsed a more elevated MMPI profile.

Lloyd et al. (1983) using a sample of 27 borderline patients based on DSM-III (APA, 1980)
criteria, using norms of bright young college graduates as a reference, found that the patients as a group fell above the 98th percentile on the F, hypochondriasis (1), depression (2), hysteria (3), psychopathic deviate (4), psychasthenia (7), and schizophrenic (8) scales. Additionally, the borderline patients fell above the 95th percentile on the paranoia (6) scale, and above the 90th percentile on the social introversion scale (0). They concluded that DSM-III (APA, 1980) borderline personality disorders in outpatient clinics provide MMPI-168 profiles that can clearly be distinguished from protocols provided by bright young college graduates in a non-clinical setting.

Newmark and Sines (1972) began a series of studies on "floating" MMPI profiles and borderline patients. They defined "floating" profiles as those in which all clinical scale scores equalled or exceeded a T score of 70 (Newmark & Sines, 1972). Newmark and Sines (1972) found out that when these profiles did occur it was usually accompanied by a T score on the F scale of 70 or greater. As a result, these profiles were often interpreted as invalid in the sense of a plea for help, a purposeful endorsement of negative items in order to look worse than need be, or as an indicator of severe psychosis. They used a sample of 28 hospitalized patients. They concluded, that the typical "floating"
profile patient was a single, 24 year old, Caucasian male, who exhibited a schizoid adjustment pattern.

In 1983, Newmark, Chassin, Gentry and Evans, contributed to an article entitled "'Floating' MMPI Profiles and DSM-III Diagnosis." In the study DSM-III diagnoses of 55 male inpatients who produced "floating" MMPI profiles was obtained. They suggested from the results that at least 50% of these patients received a DSM-III (APA, 1980) diagnosis of either borderline personality disorder or major depressive disorder. They further suggested that mean MMPI (1970) profiles for each of the three most prevalent diagnostic groups producing a "floating" profile are: borderline personality which consistently produced a 4-2-8 three-point code type; major depressive disorder, a 2-8 two-point code type; and the schizotypal personality disorder, a 8-7-2 three-point code type.

In 1984 Newmark, Chassin, Evans, and Gentry followed their 1983 study with an article called, "'Floating' MMPI Profiles Revisited." They attempted to replicate and update the characteristics of a sample of hospitalized psychiatric patients who produced "floating" profiles. The sample size was 69. They concluded of those 69 patients who were diagnosed using DSM-III (APA, 1980) criteria approximately 30% were diagnosed as borderline personality disorder while 20%
were diagnosed as major depressive disorder.

In 1984 Abramowitz et al. collaborated on an article entitled "Borderline Personality Disorder and the MMPI." They examined the MMPI (1970) profiles of 14 patients diagnosed as borderline on the basis of the Diagnostic Interview for Borderlines (DIB). They found the patients produced a mean group profile of 8-2-7. These patients exhibited greater hypochondriasis (1), depression (2), and hysteria (3) than a control group of seven patients. The authors suggest the results support the usefulness of the MMPI in differentiating the borderline personality disorder from other psychiatric disorders (Abramowitz et al., 1984).

In September of 1981 Jerome Kroll and five of his colleagues wrote an article in which the MMPIs of 21 patients diagnosed as borderline on the basis of the DIB and the MMPI were analyzed and compared to profiles of 96 patients with other psychiatric diagnosis. Although the two groups produced a similar MMPI profile, the two mean profiles differed noticeably in elevation. The differences on the F, K, depression (2), psychopathic deviate (4), paranoia (6), and schizophrenia (8) scales are all statistically significant at the p<.05 confidence level. A characteristic 8-4-2 mean profile on the MMPI emerged for the borderline patients (Kroll et al., 1981).

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Snyder et al. (1982) compared the MMPI profiles of 26 patients with DSM-III (APA, 1980) borderline personality disorders with 19 patients diagnosed as dysthymic. The borderline patients scored the highest on the psychasthenia (7) and schizophrenia (8) scales. Discriminant analyses performed on the data showed the L and F validity scales provided the best discriminators between the two groups.

Gustin, Goodpaster, Sajadi, Pitts, LaBasse, and Snyder (1983) compared 29 male veteran inpatients diagnosed as borderline personality disorder based on DSM-III (APA, 1980) criteria with 26 veteran inpatients with other personality disorders. They found the borderline patients had significantly higher elevations on six of the 13 scales (F, 1, 4, 5, 6, and 8).

**Historical Review of the MMPI**

The MMPI was first published in 1943 (Graham, 1977). The MMPI used today was later renewed in 1970. The authors of the inventory are Starke Hathaway and Jovian McKinley who were both working in the University of Minnesota Hospitals. Their goal toward the development of the MMPI (1970) was to aid clinicians in diagnostic assessment.

Hathaway and McKinley began the development of the MMPI (1970) by selecting a varied group of statements
regarding personality from a variety of sources, e.g., case histories, text books, and early scales of personality. Their initial pool of statements numbered 1,000. From the initial pool, they selected 504 statements they believed to be independent from each other (Graham, 1977).

Step two involved selection of subjects to take part in their study. The "normal" group consisted of relatives and visitors of patients in the University of Minnesota Hospitals, high school graduates, medical patients in the hospitals at the University of Minnesota, and a group of WPA workers (Graham, 1977).

The "clinical" group was made up of psychiatric patients at the University of Minnesota Hospitals. The "clinical" group represented all the major psychiatric diagnostic categories identified at the time of the study. The "clinical" group was further divided up into their discrete clinical diagnostic categories, e.g., all schizophrenics together, all paranoids together, etc. The categories utilized were: hypochondriasis, depression, hysteria, psychopathic deviate, paranoia, psychasthenia, schizophrenia, and hypomania (Graham, 1977).

Administration of the 504 personality statements was the third step in the process. An item analysis was conducted to identify the items in the pool that
differentiated significantly between the "normal" and "clinical" group.

The masculinity-femininity (Mf) scale, developed originally to distinguish between homosexual and heterosexual males, and the social introversion (Si) scale were both added later. Since its original development the Mf scale has been broadened to include other items endorsed by "normal" male and female subjects. Statements from the Terman and Miles I scale were also added to the items in the Mf scale (Graham, 1977). Drake developed the (Si) scale in 1946, and has subsequently been added to the basic clinical scales of the MMPI (Graham, 1977).

The validity scales "Lie" (L), F, and K were developed to identify deviant test taking attitudes. The L scale was specifically developed to identify when the individual taking the MMPI is trying to present himself/herself in a favorable light. The F scale was developed to identify individuals who approach the MMPI (1970) in a way that is different from what the authors intended (Graham, 1977). The K scale was designed to detect clinical defensiveness in the person taking the MMPI (1970). Later, it was used to develop a correction factor for five of the clinical scales.

At present, it has become obvious that the MMPI (1970) is not successful for detection of accurate
psychodiagnosis of a new patient (Graham, 1977). This has been concluded based on the profiles of both patients and normals alike. It is likely that a patient in a particular category is likely to obtain a high score on other clinical scales as well. On the other hand, "normal" subjects may obtain high scores on one or more of the clinical scales (Graham, 1977). Graham (1977) concluded that the clinical scales are not pure measures of the symptoms associated with the scale names. The reason for their breakdown seems to be that many of the scales of the MMPI are intercorrelated, making it unlikely that only one scale would be elevated for a single individual (Graham, 1977). A second reason for the breakdown is the unreliability of specific psychiatric diagnosis.
CHAPTER III

METHODOLOGY

The Sample

Because human subjects were used in this study, human subjects review procedures were instituted both at a midwest community mental health center and at Western Michigan University. At the community mental health center the governing body of all research involving their patient population is the Research and Evaluation Committee. In October of 1986, the proposed project was presented to this committee. Since no experimentation would be performed on the patients and guidelines were developed to protect the confidentiality of the patients involved, the six member committee voted unanimously to permit the research to be undertaken. The Human Subjects Institutional Review Board at Western Michigan University was advised of this writer's proposal through submission of the appropriate University human subjects forms. The Board also granted permission to conduct the research.

The sample studied consisted of 30 hospitalized inpatients, and 70 non-hospitalized outpatients. All patients were diagnosed by their primary therapist or
psychiatrist using the DSM-III (APA, 1980) criteria. Patients were included in the study who had a recent Minnesota Multiphasic Personality Inventory completed (within the year), and for whom the treating/primary clinician provided diagnostic criteria to substantiate the diagnosis. Of the 100 patients 50 met the DSM-III (APA, 1980) criteria for a borderline personality disorder, and 50 did not.

The borderline sample consisted of 16 men and 34 women. The non-borderline sample consisted of 22 men and 28 women. The total sample consisted of 38 men and 62 women. The age distribution for the borderline group was from 18 to 48 for males, and between 23 and 47 for females. The non-borderline group age distribution was between 20 and 54 for males, and between 18 and 60 for females. In Table 1 the characteristics for the patient sample are presented.
## Table 1

Characteristics of the Patient Sample

<table>
<thead>
<tr>
<th>DSM III Diagnosis</th>
<th>Number of Patients</th>
<th>% Female</th>
<th>% Male</th>
<th>Mean Age Female</th>
<th>Mean Age Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borderline</td>
<td>50</td>
<td>68</td>
<td>32</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Non-Borderline</td>
<td>50</td>
<td>56</td>
<td>44</td>
<td>33</td>
<td>35</td>
</tr>
<tr>
<td>Subst. Abuse</td>
<td>7</td>
<td>8</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paranoid</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective</td>
<td>9</td>
<td>12</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somatoform</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personality</td>
<td>24</td>
<td>28</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Data Collection

Data were obtained from secondary sources which were the primary source of the data. The personal-investigation method was utilized with the patients solicited in the following manner. All senior clinicians and psychiatrists were briefed both personally and in memorandum form with regard to the requirements of the sample selection. A copy of the memo sent to the above mentioned groups appears in Appendix A.
When the primary clinician received a new patient, and an MMPI (1970) was completed, the clinician sent a copy of the MMPI (1970) profile, void of the patient's name, along with supporting evidence for the diagnosis and the diagnosis on the back of the MMPI (1970) profile. Only the primary diagnosis was used in this study. Also included on the profile sheet was the age and sex of the patient. All diagnoses were reviewed and then validated by the writer's primary supervisor. All non-borderline patients and one-half of the borderline patient's profiles were obtained in this manner. Because the rate of borderline admissions, both inpatient and outpatient seemed to decline three months into the data collection phase of the study a retrospective data collection was also employed. All closed charts from 1986 and 1987, which had a closing or discharge diagnosis of borderline personality disorder as the primary diagnosis were selected. The chart was then checked for a current MMPI (1970) profile. If the chart contained a current MMPI (1970) the diagnosis was once again reviewed and validated by the primary supervisor. A copy of the MMPI (1970) profile was made, excluding the name of the patient, and including the age and sex with the diagnosis and supporting data on the back of the profile sheet. Since the discharge or closing diagnosis synthesized the most complete data
and therapy base, it was chosen as the criteria diagnosis for the retrospective data collection.

The non-borderline group consisted of patients whose conditions were diagnosed on Axis I as: mixed drug abuse, chronic undifferentiated schizophrenia, dysthymic disorder, agoraphobia, obsessive compulsive disorder, paranoid disorder, situational depression, major depression, conversion reaction, and generalized anxiety. The Axis II diagnosis yielded the following diagnosis: antisocial personality disorder, paranoid personality disorder, dependent personality disorder, and passive-aggressive personality disorder. In Table 1 a breakdown of the non-borderline diagnosis is provided.

Five patients diagnosed originally as borderline were not included because it was determined by the clinical supervisor that the diagnosis did not fully meet the DSM-III (APA, 1980) diagnostic criteria. Eight patients in the non-borderline group were not included because their diagnosis did not correlate with the patient's history or with the DSM-III (APA, 1980) criteria.

**Tabulation of Data**

The raw scores of the MMPI scales for both the borderline and non-borderline group were K-corrected and converted to T scores. The T scores were then recorded.
on data paper arranged by the specific scales for both the borderline and non-borderline groups. A column for the sex and age of the patients was also added. The non-borderline group was broken down into the specific primary diagnosis which is included in table 1.

Analysis of Data

Univariate analysis of variance was first performed on the total sample to determine the significant of all pair-wise comparisons. The following hypotheses were tested:

1. The mean of the borderline group L scale is equal to the mean of the non-borderline group L scale.
2. The mean of the borderline group F scale is equal to the mean of the non-borderline group F scale.
3. The mean of the borderline group K scale is equal to the mean of the non-borderline group K scale.
4. The mean of the borderline group 1 scale is equal to the mean of the non-borderline group 1 scale.
5. The mean of the borderline group 2 scale is equal to the mean of the non-borderline group 2 scale.
6. The mean of the borderline group 3 scale is equal to the mean of the non-borderline group 3 scale.
7. The mean of the borderline group 4 scale is equal of the mean of the non-borderline group 4 scale.
8. The mean of the borderline group 5 scale is equal to the mean of the non-borderline group 5 scale.

9. The mean of the borderline group 6 scale is equal to the mean of the non-borderline group 6 scale.

10. The mean of the borderline group 7 scale is equal to the mean of the non-borderline group 7 scale.

11. The mean of the borderline group 8 scale is equal to the mean of the non-borderline group 8 scale.

12. The mean of the borderline group 9 scale is equal to the mean of the non-borderline group 9 scale.

13. The mean of the borderline group 0 scale is equal to the mean of the non-borderline group 0 scale.

F-ratios were calculated for all comparisons as well as the significance of the ratio. A discriminant analysis was also performed to determine the percent of the cases which were correctly classified on the basis of the MMPI (1970).

Univariate analysis of variance was also performed to determine the significance of all male and then female pair-wise comparisons of each of the three validity scales and the 10 clinical scales. The following hypotheses were tested for the males:

1. The mean of the male borderline group L scale is equal to the mean of the male non-borderline group L scale.
2. The mean of the male borderline group F scale is equal to the mean of the male non-borderline group F scale.

3. The mean of the male borderline group K scale is equal to the mean of the male non-borderline group K scale.

4. The mean of the male borderline group 1 scale is equal to the mean of the male non-borderline group 1 scale.

5. The mean of the male borderline group 2 scale is equal to the mean of the male non-borderline group 2 scale.

6. The mean of the male borderline group 3 scale is equal to the mean of the male non-borderline group 3 scale.

7. The mean of the male borderline group 4 scale is equal to the mean of the male non-borderline group 4 scale.

8. The mean of the male borderline group 5 scale is equal to the mean of the male non-borderline group 5 scale.

9. The mean of the male borderline group 6 scale is equal to the mean of the male non-borderline group 6 scale.

10. The mean of the male borderline group 7 scale is equal to the mean of the male non-borderline group 7 scale.
11. The mean of the male borderline group 8 scale is equal to the mean of the male non-borderline group 8 scale.

12. The mean of the male borderline group 9 scale is equal to the mean of the non-borderline male group 9 scale.

13. The mean of the male borderline group 0 scale is equal to the mean of the male non-borderline group 0 scale.

The following hypotheses were tested for the female sample:

1. The mean of the female borderline group L scale is equal to the mean of the female non-borderline group L scale.

2. The mean of the female borderline group F scale is equal to the mean of the female non-borderline group F scale.

3. The mean of the female borderline group K scale is equal to the mean of the female non-borderline group K scale.

4. The mean of the female borderline group 1 scale is equal to the mean of the female non-borderline group 1 scale.

5. The mean of the female borderline group 2 scale is equal to the mean of the female non-borderline group 2 scale.
6. The mean of the female borderline group 3 scale is equal to the mean of the female non-borderline group 3 scale.

7. The mean of the female borderline group 4 scale is equal to the mean of the female non-borderline group 4 scale.

8. The mean of the female borderline group 5 scale is equal to the mean of the female non-borderline group 5 scale.

9. The mean of the female borderline group 6 scale is equal to the mean of the female non-borderline group 6 scale.

10. The mean of the female borderline group 7 scale is equal to the mean of the female non-borderline group 7 scale.

11. The mean of the female borderline group 8 scale is equal to the mean of the female non-borderline group 8 scale.

12. The mean of the female borderline group 9 scale is equal to the mean female non-borderline group 9 scale.

13. The mean of the female borderline group 0 scale is equal to the mean of the female non-borderline group 0 scale.
CHAPTER IV

ANALYSIS OF DATA

A Comparison of MMPI Profiles

The data in this chapter will be presented in two ways. First, a series of tables indicative of the total group, males taken separately, and females taken separately, representing summaries of the specific group differences will be presented. Included each of these tables, three in number, are the three validity scales plus the 10 clinical scales with the mean T score of the specific MMPI scale. At the far right of each table is the univariate F ratio. The single or double asterisk represents the level of significance. In Table 3 a breakdown of the canonical discriminant classification results is presented.

The three figures are a pictorial representation of their respective tables. Each figure represents a scaled down version of the MMPI profile. It gives the reader a pictorial view of the differences between groups plotted on the MMPI profile.
The mean MMPI profiles of borderline and non-borderline patients are shown in Figure 1. These

![Graph showing MMPI profiles for Borderline Patients (N=50) and Control Patients (N=50)]

* p<0.05  
** p<0.01

Figure 1. Mean Profiles for the Total Sample.
profiles combine both male and female patients using T scores which were then weighted according to the sex distribution of the sample. As can be observed from Figure 1, the two most elevated clinical scales for the borderline group are the schizophrenic (8) and psychopathic deviate (4). These two scales are followed closely in elevation by the depression (2), paranoia (6), and psychasthenia (7) scales, with an elevated F scale. The two most elevated clinical scales for the non-borderline group are the depression (2) and psychopathic deviate (4).

Means for the two groups on all MMPI scales and univariate F-ratios for all scales are presented in Table 2. Sex of the patients was controlled in the statistical analysis by its inclusion as a separate independent variable. The mean scores presented in Table 2 are K corrected.

Results of the univariate analysis of variance indicate the F validity scale of the borderline patient group showed a significantly higher mean elevation than the non-borderline group at the $p<.01$ level. The borderline patients also showed a significantly higher mean elevation than the non-borderline group at the $p<.05$ level on the hysteria, mania, and social introversion scales. Further, the borderline group showed a significantly higher mean elevation than the
Table 2
A Summary of Group Differences in MMPI Scale Scores

<table>
<thead>
<tr>
<th>MMPI Scale</th>
<th>Borderline Patients (N=50) T Score Means</th>
<th>Non-Borderline Patients (N=50) T Score Means</th>
<th>F Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>49</td>
<td>51</td>
<td>2.5</td>
</tr>
<tr>
<td>F</td>
<td>78</td>
<td>64</td>
<td>20.7**</td>
</tr>
<tr>
<td>K</td>
<td>47</td>
<td>50</td>
<td>3.2</td>
</tr>
<tr>
<td>Hypochondriasis</td>
<td>68</td>
<td>63</td>
<td>3.4</td>
</tr>
<tr>
<td>Depression</td>
<td>79</td>
<td>72</td>
<td>3.4</td>
</tr>
<tr>
<td>Hysteria</td>
<td>70</td>
<td>66</td>
<td>4.0*</td>
</tr>
<tr>
<td>PD</td>
<td>82</td>
<td>71</td>
<td>23.6**</td>
</tr>
<tr>
<td>MF</td>
<td>54</td>
<td>58</td>
<td>1.4</td>
</tr>
<tr>
<td>Paranoia</td>
<td>76</td>
<td>65</td>
<td>22.9**</td>
</tr>
<tr>
<td>Psychasthenia</td>
<td>77</td>
<td>67</td>
<td>10.9**</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>87</td>
<td>69</td>
<td>26.6**</td>
</tr>
<tr>
<td>Mania</td>
<td>65</td>
<td>60</td>
<td>5.5*</td>
</tr>
<tr>
<td>Social Introv.</td>
<td>66</td>
<td>60</td>
<td>5.3*</td>
</tr>
</tbody>
</table>

*p<.05  **p<.01

The non-borderline group at the p<.01 level on the F, psychopathic deviate, paranoia, schizophrenic, and psychasthenia scales.

As can be observed in Table 2, the borderline group obtained a distinctive and significant 8-4
two-point codetype, and an 8-4-2 three-point codetype.

In addition to the univariate analysis performed, the T scores were also subjected to a standardized canonical discriminant function to identify how many the patient cases were correctly classified, and which variables discriminated between the two groups the best. The discriminant analysis revealed that 73% of the "grouped" cases are correctly classified on the basis of the MMPI. The classification results are presented in Table 3.

Table 3
Canonical Discriminant Classification Results

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>Number of Cases</th>
<th>Predicted Group Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>50</td>
<td>35 (70%) 15 (30%)</td>
</tr>
<tr>
<td>Group 2</td>
<td>50</td>
<td>12 (24%) 38 (76%)</td>
</tr>
</tbody>
</table>

Results of the discriminant analysis also indicated the schizophrenic, paranoia, and psychopathic deviate scales discriminated the best between the borderline and non-borderline groups.

Based on the univariate analysis of variance the following statistical conclusions can be reached:
1. The mean of the borderline group L scale is equal to the mean of the non-borderline group L scale.

2. The mean of the borderline group F scale is not equal to the mean of the non-borderline group F scale.

3. The mean of the borderline group K scale is equal to the mean of the borderline group K scale.

4. The mean of the borderline group 1 scale is equal to the mean of the non-borderline group 1 scale.

5. The mean of the borderline group 2 scale is equal to the mean of the non-borderline group 2 scale.

6. The mean of the borderline group 3 scale is not equal to the mean of the non-borderline group 3 scale.

7. The mean of the borderline group 4 scale is not equal to the mean of the non-borderline group 4 scale.

8. The mean of the borderline group 5 scale is equal to the mean of the non-borderline group 5 scale.

9. The mean of the borderline group 6 scale is not equal to the mean of the non-borderline group 6 scale.

10. The mean of the borderline group 7 scale is not equal to the mean of the non-borderline group 7 scale.

11. The mean of the borderline group 8 scale is not equal to the mean of the non-borderline group 8 scale.

12. The mean of the borderline group 9 scale is not equal to the mean of the non-borderline group 9 scale.

13. The mean of the borderline group 0 scale is not equal to the mean of the non-borderline group 0 scale.
A Comparison by Sex of MMPI Profiles

Because only one previous study, Lloyd et al. (1983) separated the results by sex, it seemed appropriate to examine the results for sex differences. The goal was to determine if any profile differences occurred on the basis of sex. In Figure 2 and Table 4 a comparison of the profiles of borderline and non-borderline male patients is presented. Analysis of the results indicate the male borderline patients produce an 8-4 mean profile codetype, as well as an elevated F. Univariate F-ratios yielded a statistically significant difference, p<.01 on the schizophrenic scale, and p<.05 on the psychopathic deviate and F scales. Results also indicate a similar but more elevated profile for the borderline male group.
Table 4
A Summary of Male Group Differences in MMPI Scale Scores

<table>
<thead>
<tr>
<th>MMPI Scale</th>
<th>Borderline Males (N=16) T Score Mean</th>
<th>Non-borderline Males (N=22) T Score Mean</th>
<th>F ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>49</td>
<td>51</td>
<td>.4099</td>
</tr>
<tr>
<td>F</td>
<td>78</td>
<td>68</td>
<td>4.38*</td>
</tr>
<tr>
<td>K</td>
<td>48</td>
<td>50</td>
<td>.2514</td>
</tr>
<tr>
<td>Hypochondriasis</td>
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*p<.05  **p<.01

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Male

- Borderline Patients (N=16)
- Control Patients (N=22)

Figure 2. Mean Profiles for the Male Sample.

In Figure 3 and Table 5 a comparison of the profiles of borderline and non-borderline females is presented. Results indicate a similar configuration was also produced, but as in the case of the borderline male patients, the borderline female mean group profile was more elevated than the non-borderline group profile. Univariate F ratios indicate significant differences, p<.01 on the depression, paranoia, psychasthenia, schizophrenia, and F scales. A significant difference,
p<.05 occurred on the social introversion scale. The borderline female group yielded an 8-4 two-point codetyp, and an 8-4-2 three-point codetyp, consistent with the male borderline group and the total sample.

The statistical conclusions for the borderline and non-borderline male groups are as follows:

1. The mean of the male borderline group L scale is equal to the mean of the male non-borderline group L scale.

2. The mean of the male borderline group F scale is not equal to the mean of the male non-borderline group F scale.

3. The mean of the male borderline group K scale is equal to the mean of the male non-borderline group K scale.

4. The mean of the male borderline group 1 scale is equal to the mean of the male non-borderline group 1 scale.

5. The mean of the male borderline group 2 scale is equal to the mean of the male non-borderline group 2 scale.

6. The mean of the male borderline group 3 scale is equal to the mean of the male non-borderline group 3 scale.

7. The mean of the male borderline group 4 scale is not equal to the mean of the male non-borderline group 4 scale.
8. The mean of the male borderline group 5 scale is equal to the mean of the male non-borderline group 5 scale.

9. The mean of the male borderline group 6 scale is equal to the mean of the male non-borderline group 6 scale.

10. The mean of the male borderline group 7 scale is equal to the mean of the male non-borderline group 7 scale.

11. The mean of the male borderline group 8 scale is not equal to the mean of the male non-borderline group 8 scale.

12. The mean of the male borderline group 9 scale is equal to the mean of the male non-borderline group 9 scale.

13. The mean of the male borderline group 0 scale is equal to the mean of the male non-borderline group 0 scale.

The following statistical conclusions were reached for the female borderline and non-borderline group:

1. The mean of the female borderline group L scale is equal to the mean of the female non-borderline group L scale.

2. The mean of the female borderline group F scale is not equal to the mean of the female non-borderline group F scale.
3. The mean of the female borderline group K scale is equal to the mean of the female non-borderline group K scale.

4. The mean of the female borderline group 1 scale is equal to the mean of the female non-borderline group 1 scale.

5. The mean of the female borderline group 2 scale is not equal to the mean of the female non-borderline group 2 scale.

6. The mean of the female borderline group 3 scale is equal to the mean of the female non-borderline group 3 scale.

7. The mean of the female borderline group 4 scale is not equal to the mean of the female non-borderline group 4 scale.

8. The mean of the female borderline group 5 scale is equal to the mean of the female non-borderline group 5 scale.

9. The mean of the female borderline group 6 scale is not equal to the mean of the female non-borderline group 6 scale.

10. The mean of the female borderline group 7 scale is not equal to the mean of the female non-borderline group 7 scale.

11. The mean of the female borderline group 8 scale is not equal to the mean of the female non-borderline group 8 scale.
12. The mean of the female borderline group 9 scale is equal to the mean of the female non-borderline group 9 scale.

13. The mean of the female borderline group 0 scale is not equal to the mean of the female non-borderline group 0 scale.
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*p<.05  **p<.01

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Figure 3. Mean Profiles for the Female Sample.

Female
- Borderline Patients (N=34)
- Control Patients (N=28)

*p < .05
**p < .01

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CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The Summary

Treatment efforts with borderline patients, which seem to disturb mental health centers and psychiatric hospitals alike, have been frustrated for some time because identification of the borderline patient has been vague and difficult. The MMPI (1970) is a general tool used as part of the admission battery in many mental health centers. The MMPI (1970) is also used because of its standardization, ease of administration, and adequate reliability and validity figures. The tool also covers symptomatic areas which correlate with the borderline pathology. The present study was undertaken to examine the MMPI characteristics of the DSM-III (APA, 1980) borderline personality disorder. Further, the study was undertaken to determine whether borderline patients could be differentiated and discriminated from non-borderline patients by the use of the MMPI (1970).

MMPI profiles of 50 borderline patients, 16 men and 34 women, along with a mixed diagnostic group consisting of 22 men and 28 women were obtained from outpatient and inpatient charts in a midwest community mental health

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center. In some cases the profiles were obtained directly from the treating clinician. The profiles of the 50 borderline patients were compared with the 50 profiles of the non-borderline patients using univariate F tests and discriminate analysis. The borderline patients showed a more elevated profile, with significantly higher elevations of seven of the 10 clinical scales, four at the p<.01 level, schizophrenia, psychopathic deviate, paranoia, and psychasthenia, and three at the p<.05 level, mania, social introversion, and hysteria. The MMPI (1970) profiles of the borderline patients suggest pathology in the form of impulsivity, unconventional thinking, anger, poor interpersonal relationships, suspiciousness, problems with authority figures, and confusion.

The borderline patients also differed from the non-borderline patients on one of three validity scales, scoring significantly higher on the F scale, p<.01, with a lowered K scale, but only significant at the p<.10 level. The validity scale configuration of the borderline patients indicate the borderline patients have primitive ego defenses.

The borderline group produced an 8-4 two-point codetype, both significantly different from the non-borderline group at the p<.01 level. The borderline group also produced an 8-4-2 three-point codetype.
The female borderline patients, as compared with the female non-borderline female patients showed significantly higher elevations on five of the 10 clinical scales, depression, psychopathic deviate, paranoia, psychasthenia, and schizophrenia, with an elevated F validity scale, all significant at the p<.01 level. It was concluded that the female borderline group showed a mean MMPI profile of 8-4-2.

The male borderline patients as compared with the non-borderline male patients showed significantly higher elevations on two of the 10 clinical scales, schizophrenia, at the p<.01 level, and psychopathic deviate, at the p<.05 level. The male borderline patients also differed significantly from the non-borderline group at the p<.05 level on the F validity scale. The male borderline group produced an 8-4 two-point code.

A discriminate analysis indicated that in 73% of the cases, the patients were correctly classified on the basis of the MMPI, with the schizophrenic, paranoia, and psychopathic deviate scales discriminating between the two groups the best.

It can be concluded that borderline patients can be accurately discriminated from non-borderline patients by the use of the MMPI. The borderline patients show significantly elevated mean profiles and endorse items
leading to a distinctive diagnostic codetype of 8-4-2. Borderline patients also endorse distinctive validity scale configurations of an elevated F with a lowered K. Based on the MMPI profiles, borderline patients can be characterized as suffering from primitive, insufficient, and weak ego defenses. The borderline patient is vulnerable to considerable distress and confusion with no internal identity to rely on. The borderline patients rely on primitive and unconventional thought processes. These patients are in need of a great deal of therapeutic help, but lack trust enough to allow others help them for fear of abandonment and engulfment, and the cycle starts all over again.

The Conclusions

In this study borderline patients as a group showed significantly higher mean scale elevations as compared to the non-borderline patients. The significantly higher elevations came on the F validity scale, and on the hysteria (3), psychopathic deviate (4), paranoia (6), psychasthenia (7), schizophrenia (8), mania (9), and social introversion (0) clinical scales. The borderline patients produced a mean group profile configuration of 8-4-2. These results closely correlate with previous research. Lloyd et al. in a 1983 study showed a more elevated borderline profile with
significantly higher elevations on the psychopathic deviate, paranoia, and schizophrenia scales. Newmark et al. (1983) demonstrated that the mean MMPI profile for the borderline personality group in their study was a 4-2-8 three-point codetype. The borderline patients in the Kroll et al. (1981) study produced an 8-4-2 profile, and as a group, had higher mean scores than the diagnostically mixed non-borderline group on scales F, K, 2, 4, 5, and 8. The borderline patients obtained a mean group profile or 8-2-7, as well an an elevated F, in the Abramowitz et al. (1984) study. The profile produced by the borderline patients was also more elevated than that obtained by the control group. In the Patrick (1984) study, the patients diagnosed as having a borderline personality disorder obtained a mean profile configuration of 8-4-2. The results also indicated that the schizophrenic, psychopathic deviate, depression, and psychasthenia scales were elevated most frequently in the Patrick sample. In the Snyder et al. (1982) study the borderline patient's two highest mean scores were on the psychasthenia and schizophrenia scales, with an elevated F validity scale. A major difference in the previous research occurred in the Kroll et al. (1981) study. While reporting similar patterns on the schizophrenia and psychopathic deviate scales the results also indicated that the borderline
patients produced a significantly higher elevation on the depression scale. The Kroll et al. (1981) study only included 10 borderline patients in the analysis leading to higher mean scores.

Further analysis of the borderline profiles of the borderline group point out the consistent and unique validity scale configuration. In the present study the borderline patient profiles showed a clinically elevated F validity scale, a mean T score of 78, in conjunction with a lowered K score, a mean T score of 48. Of the five previous studies which presented the results in such a way as to examine the mean T scores, all five studies demonstrated that borderline patients showed a significantly elevated mean F scale score in association with a lowered K scale score. An elevation on the F scale in this proportion may indicate several things. First, it can suggest an exaggeration of symptoms to elicit help or have the patient appear worse than he or she actually is. Second, it can indicate a random response pattern. Last, it may be indicative of unconventional thinking.

One conclusion which can be reached in light of the results of this study is that the borderline personality uses primitive defense mechanisms such as avoidance, denial, and "splitting." The use of these primitive defense mechanisms leads to the inability of
borderline patients to defend themselves and feel good about themselves leading to a highly self-critical person who has difficulty in interpersonal relationships, who experiences lability of affect depending on the level of self-criticism, and, finally, poor work relationships and habits. With the dilemmas the patient faces, it would seem to make sense that the patient feels worse leading to an increase in the endorsement of negative symptomatology, leading to an elevation of scale F and a decrease in scale K.

It is likely, based on the results presented in this dissertation, that borderline patients can be differentiated from non-borderline patient by the use of the MMPI (1970) profile. One conclusion would be the borderline group as a whole is likely to utilize primitive defenses, be highly self-critical, and possibly exaggerate symptomatology to elicit help with the bad feelings they have. The consequence is an elevated MMPI (1970) profile.

A second conclusion based on the findings in this dissertation is the MMPI (1970) profile produced by the borderline patient is indicative of the underlying pathology of the borderline syndrome. Namely, the 8-4-2 mean profile characterizes the borderline patient as engaging in unconventional thinking, hostility, suspiciousness, impulsivity, egocentric interpersonal
and work relationships, depression, lability of affect, a high degree of acting out potential, anger, and a general lack of identity, demonstrated by feelings of social and familial alienation and a difficulty with identifying with parental figures. This, then, is the profile of a highly distressed patient, and for good reason! As discussed before, not only are the above symptoms present in the borderline patient, but based on the data, to a greater degree in the female borderline patient. Because of the characteristically elevated F and lowered K the borderline patient offers little resistance against the ravages of the above symptoms. This patient defends by seeing others as all good or all bad, by projecting their feeling on to others. Not only are the defenses inadequate, but there is an equally inadequate ego. The above conclusions and interpretation are consistent with the research listed in the literature review. That is, borderline patients are characterized as having a poorly integrated self with specific ego weaknesses (Kernberg, 1977). Their thinking is unconventional which is ego-syntonic vs. the ego-dystonic nature of the acute schizophrenic (Weiner, 1966). Giovacchini (1967) discussed the basis of the clinical picture of the borderline patient as being focused in their developmental arrest. The defective ego prevents the borderline patient from effectively
dealing with their internal and external world leading to the unconventional thinking and confusion. The defenses used to defend against the memories of their development help little to ward off the confusion and alienation they experience. Borderline patients experience abandonment depression, feelings of emptiness and loneliness, and an inability to bond because of the maternal libidinal unavailability during the patient's development (Masterson, 1979).

In conclusion, based on this study and previous research, the borderline patient can be accurately differentiated from other non-borderline psychiatric patients with the use of the MMPI (1970). The borderline patients show significantly elevated mean profiles, especially on scales 8, 4, 6, 7, 9, and 0. They further endorse items leading to a distinctive codetype of 8-4-2 which will differentiate borderline from non-borderline patients. Borderline patients also endorse distinctive validity scale configurations. The interpretations, conclusions, and results validate the borderline construct in that borderline patients can be discriminated from non-borderline patients with good reliability. The borderline patient, based on the MMPI (1970) profile can be characterized as suffering from primitive, insufficient and weak ego defenses which leave the patient vulnerable to considerable
distress and confusion. The primitive defensive structure leaves the patient susceptible to primitive thought processes leading to unstable relationships. The defense mechanisms of the borderline patient also leave them vulnerable to lability of affect, angry on one hand, depressed on the other, which they are likely to act out on since they can not handle the internal conflict. The borderline patient's symptomatology will be long standing in nature since the roots are planted in the early stages of the developmental process. The consequence will be a syntonic ego development which will make treatment more difficult.

It is anticipated that clinicians who standardly use the Minnesota Multiphasic Personality Inventory will more quickly be able to differentiate the borderline patient from other psychiatric patients and begin appropriate treatment strategies to hopefully shorten the long standing nature of the borderline illness.

Recommendations For Further Research

Since results presented in the study show that the MMPI can be used to differentiate borderline patients from non-borderline patients, it would seem likely that within the MMPI (1970) a separate clinical scale may exist which can be used to further identify the borderline patient. This further research would
dovetail with a study completed in 1983 by Lloyd et al. in which they performed an individual item analysis on the MMPI-168 profiles of 27 borderline patients. The results of that study indicated that 34 items discriminated between borderline and non-borderline patients at the p<.05 level. Of those 34 items sixteen of those items successfully discriminated between the borderline and non-borderline groups at the p<.01 level. Twenty-one more items discriminated between the two groups at the p<.10 level. It would be desirable to increase the sample size, and to perform the item analysis on the entire 566 item MMPI (1970).
Appendix A

Memorandum sent to Clinicians to Begin Data Collection
MEMO

TO: All Physicians and Clinicians

FR: John Heroldt, Psychology Intern

RE: Data for my dissertation

1/13/87

The research and evaluation committee met on Thursday, December 4, 1986 to review my request to collect data for my doctoral dissertation. My request was granted. My purpose for drafting this memorandum is to request help from you in gathering my data. My dissertation will focus on the relationship of the DSM-III borderline personality disorder and the MMPI. It is my intent to obtain 50 MMPI profiles from patients who are diagnosed as having a borderline personality disorder, based on DSM-III criteria, and as a control group I am looking to obtain 50 MMPI profiles from "other" psychiatric diagnosis. Here is where I could use your help! If you are treating a patient with a borderline personality diagnosis or "other" psychiatric disorder or know of one that has a current MMPI (within the last year) please call me so that we can talk about the diagnosis. If at that point I can use the data all I would request is a copy of the MMPI profile sheet, the age, and the sex of the patient. I do not need the name of the patient, nor do I need to meet the patient face to face, thereby, putting no patient at risk. On the back of the profile, if you could include the symptoms which lead to your diagnosis, in order to substantiate the diagnosis for my committee, that would be helpful. I look forward to hearing from you, and I thank you in advance for your help. I can be reached at ext. 214 or 375.
Appendix B

Human Subjects Review Procedures
TO: John Heroldt  
    Alan Hovestadt  
FROM: Ellen Page-Robin, Chair  
RE: Research Protocol  
DATE: March 13, 1987  

This letter will serve as confirmation that your research protocol, "Relationship of the DSM-III Borderline Personality Disorder and the MMPI," has been agreed exempt by the HSIRB.  

If you have any questions, please contact me at 383-4917.
A. IDENTIFYING INFORMATION

1. Title of Project: The Relationship between the DSM-III Borderline Personality Disorder and the MMPI

2. Principal Evaluator/Investigator: John Heroldt

3. Position: Psych. Intern

4. Affiliation (Non KH Employees only):

5. Mailing Address (Non KH Employees only):

6. Project period (approx. dates): October 1986 through August 1987

7. Does project involve research with human subjects? Yes (If yes, Section C must be completed by R&E Committee.)

8. Does project involve human subjects who may be at risk? No (If yes, Section D must be completed by IRB.)

(ATTACH COPY OF PROPOSAL OR PROPOSAL ABSTRACT AND CONSENT FORM)

B. APPROVAL PROCESS

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KEMHC
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C. APPROVAL FOR USE OF HUMAN SUBJECTS IN RESEARCH PROJECT ENTITLED

The attached proposal has been examined to provide assurance of the protection of the rights of human subjects. It has been determined that the subjects (circle appropriate one) will not be at risk in this project and that the proposed procedures are considered accepted practices. It has also been determined that this project will satisfy the following criteria: (Please check ✓ each criterion.)

☐ Each subject will be informed, verbally or in writing, of the nature of the research that reasonably might be expected to influence the subject's willingness to participate and to explain all other aspects of the research about which the subject inquires. Where scientific considerations dictate withholding of information, provisions will be made to protect the welfare and dignity of the research subject.

☐ Each subject will be informed that he/she may decline to participate in the study or to discontinue to participate without giving a reason and without penalty.

☐ Each subject will consent, either verbally or in writing, to participate voluntarily in the study. For persons under 18 years of age, consent will be given by the parent or legal guardian. If subjects are not "at risk" voluntary participation by subjects of all ages is acceptable and written permission of parent or guardian is not required.

✓ The anonymity of subjects will be carefully preserved through the study.

☐ Where methodological requirements of a study necessitate concealment or deception, provisions will be made to ensure the subject's understanding of the reasons for such and to restore the quality of the relationship with the investigator.

☐ Where the nature of the study was not disclosed for purposes of scientific or human values, subjects will be provided full clarification of the nature of the study to remove any misconceptions which may have arisen following the collection of data.

☐ Provisions will be made to protect each subject from physical and mental discomfort, harm, and danger.

☐ Each subject of biomedical and behavioral research shall be informed of the compensation and medical treatment available in the event of physical injury resulting from the medical research procedures.

Signature [Signature] 2/4/96
Name [Name]
Data [Date]
Research and Evaluation Committee
Katherine Hamilton Mental Health Center, Inc.

D. APPROVAL FOR USE OF HUMAN SUBJECTS WHO MAY BE AT RISK IN RESEARCH PROJECT ENTITLED

The attached proposal has been examined to provide assurance of the protection of the rights of human subjects who may be placed at risk through their participation in the project. It has been determined that this project will satisfy the following criteria: (Please check ✓ each criterion.)

☐ All criteria listed in Section C will be met.

☐ Through a careful analysis of risks and benefits, it has been determined that the benefits to be obtained from the research will outweigh the potential risk for the subjects involved.

☐ The selection of subjects is directly related to the specific knowledge to be gained from the research.

☐ Special provisions have been made to assure that informed consent has been obtained for persons whose comprehension may be severely limited.

Signature [Signature]
Name [Name]
Data [Date]
Institutional Review Board
Katherine Hamilton Mental Health Center, Inc.

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BIBLIOGRAPHY


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