PERSONALITY DISORDER AND DEPRESSION

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by

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ABSTRACT

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The purpose of this study was to investigate the relationship between personality disorder and depression, the focus being upon the frequency and type of personality disorder, its relationship to the type of depression and its effect upon outcome.

A random sample of 67 depressed psychiatric inpatients was assessed for the presence of personality disorder using the original Personality Disorder Examination (PDE). Criteria for entry into the study were that the subjects on admission to hospital had a depressed mood, with a Beck Depression Inventory score greater than 18 and were in the age range 18 to 45. There were 27 males and 40 females in the study with a mean age of 32.8 years. The initial assessment, made within 72 hours, included the Beck Depression Inventory, Hamilton Rating Scale for Depression, the Eysenck Personality Inventory and the Diagnostic Melancholia Scale. The major assessment was done when their depression had remitted (Montgomery-Asberg Depression Scale Score < 9). This included the PDE, Socialization Scale, Alexithymia Scale, the Global Assessment of Functioning Scale as well as historical and demographic data that included Life Events. Finally, a DSM-III-R clinical diagnosis, arrived at

by the psychiatric team at a discharge diagnosis meeting, was used.

There were 44 subjects, 19 male and 25 female diagnosed by the PDE as personality disorders. Only 14 (32%) had a diagnosis of a single personality disorder. The most frequent diagnosis (68%) was Borderline Personality Disorder. Compared to the normal subjects group, the personality disorder group were younger, had lower Socialization scores and reported more undesirable life events and concerns about employment and health.

When the subjects were grouped according to their type of depression, Major Depressive Disorder (28), Adjustment Disorder Depression (20) and Secondary Depression (19), personality disorders were not significantly associated with a particular type of depression except for Antisocial Personality Disorder with Secondary Depression. Differences between personality disorder and normal subjects within each type of depression group were largely not specific to the type of depression, nor were there many significant differences between the types of depression when analysis was restricted to the personality disorder subjects in each group.

The high frequency of Borderline Personality Disorder led to a post hoc analysis of these subjects. They viewed themselves as subjectively more depressed, had lower Socialization Scores, higher Scale A Alexithymia scores, and

were younger than normal subjects. Compared to other personality disorders, those with Borderline Personality had longer hospital stays, worse current levels of functioning, higher Alexithymia C scores, and greater frequency of marital problems.

Differences between subjects with personality disorder and those with normal personalities were found in all divisions of the data and have been reported and discussed. The PDE identified a higher proportion of subjects with personality disorder (66%) than psychiatrists' clinical diagnoses (21%). The reasons for this are discussed as is the relationship of Borderline Personality Disorder to the development of depression in general.

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I. INTRODUCTION

The present investigations arose from a clinical concern and interest in the contribution that personality disorders make to psychiatric morbidity in General Hospital Psychiatry Units. The investigator's initial interest in personality disorder developed from clinical involvement with them as a psychiatric nurse and in subsequent involvement in research focusing on behavioral attributes of personality disorders.

In earlier studies of psychiatric inpatients that the investigator was involved in, it was found that personality disorders had high Beck Depression Inventory scores (Smith, 1982; Standage, Bilsbury, Jain and Smith, 1984; Standage, 1986). In reviewing this initial research, the author found that while the comparison group diagnosed as having depression was screened for presence of personality disorder, the histrionic personality disorder group was not systematically screened for presence of depression but did indeed receive discharge diagnosis of depression and scored as high on the Beck Depression Inventory as the depressed comparison group. It was concluded from this that most of the personality disorder subjects studied had been admitted to hospital with a depressed mood state.

It seemed from this, that patients with personality disorder might make a significant contribution in the

proportion of depressed patients admitted to General Hospital Psychiatry Units. Therefore, an investigation of personality disorder subjects with depression, admitted to General Hospital Psychiatric Units could shed light upon several important issues. Firstly, do patients with Personality Disorder form a significant proportion of patients admitted to hospital with depression? Secondly, is there an association between depression and perhaps its sub-categories, and personality disorder? Thirdly, does the presence of personality disorder affect the course and presentation of depression? Answers to these questions would have implications for treatment and overall hospital management for depressed patients with a concurrent diagnosis of personality disorder.

In order to examine these questions about personality disorder, it is necessary to review the concepts of personality disorder and depression, and to explore what is known about the relationship between the two. More speculative is the question of the mechanism by which personality disorder may play a role in the development of depressive symptomatology. If there is an identified role, then it would raise practical questions about admission criteria, and the management of hospitalized patients with depression. It would have theoretical implications about the relationship between personality disorder and depression.

Since the focus of the study is personality

disorder, the literature review will attempt a comprehensive review of this concept. The concept 'depression' has been a well researched area and is much less controversial than that of personality disorder. Therefore, it will not be covered in so much detail. The relationship between personality disorder and depression is central to the present study and provides the base from which this study will proceed.

A. Section 1

1. Definition of Personality

The term 'personality' has come to mean different things to different people. There are numerous theories and definitions of personalities but little consensus. The scientific study of personality, originating in Galton's work on individual differences led to its being viewed as a stable organization of traits which could be measured and used to predict future behaviour. However, more recent sociological and behavioral theories about human behaviour have questioned the explanatory value of such concepts, emphasizing instead the demands of social situations and the role of learning as the factors best able to account for the limited extent to which behaviour persists through time or remains stable from one situation to another (Mischel, 1986). In a social context, personality may mean that which makes a person effective in encounters with others. Often closely related to personality is the idea that the person's most striking or outstanding features formulate his or her personality.

Most definitions of personality have in common the theorists' attempt to describe attributes of an individual that make him or her unique. It is this uniqueness that makes individuals react to similar situations in very different ways. Allport (1937) stated that personality "is one of the most abstract words in our language, and like any abstract word suffering from excessive use, its connotative

significance is very broad, its denotative significance negligible, scarcely any word is more versatile", (pp. 24-25).

2. Factors in the Identification of Personality Disorder

a. Definition of Personality Disorder

Whilst there has been no consensus as to what constitutes personality disorders, it seems critical to attempt to find commonalities for the group of patients diagnosed with these disorders. Even though descriptions of personality disorders are diverse and the characteristics of one disorder may be totally different from another, the question of what makes this group of people labelled personality disorder important enough to gain much health care consideration needs to be addressed.

Usually, people labelled as personality disorder have been considered a troublesome group who did not clearly fall into the bounds of insanity. Personality disordered people often consider themselves to be "quite normal" and resist treatment unless they become depressed or develop some other psychiatric condition. Those with personality disorder may also cause problems for others in their personal and professional day-to-day living.

When assessing the levels of challenge presented by patients in psychiatric inpatient settings, those labelled as personality disorders have been considered as the most

"difficult" to treat because they do not respond to traditional methods of care. They are a group that show maladaptive behaviours that present in very individual ways. In assessing personality disorders in patients, one has to consider what is unique about the individual's personality in addition to it being deviant.

DSM-III-R (1987) defines personality disorder in a general sense, to be behaviour that interferes with a person's social or occupational functioning that endures over a long period of time and is not limited to periods of illness. Personality disorder has also been described as that behaviour which is maladaptive. With the previous considerations in mind, it appears that a lot of attention , many times by necessity rather than choice, has to be given to personality disordered individuals when they present as patients in a psychiatric setting. It seems important to study concepts and issues surrounding the diagnosis of personality disorder in order to facilitate the treatment process.

b. <u>The concept "affect" and Personality Disorder</u>

The focus of this investigation was the relationship between a depressed affective state and personality disorder. It is appropriate to review the concept of affect and then its relationship to personality disorder. There have been various opinions as to how affect can be defined. Green (1977) described that it is much

easier to talk about affect and the way that it is conceived than to discuss affect itself. He believed that "affect includes a particular motor innervation or discharge and secondly, certain feelings; the latter are of two kinds - perceptions of motor actions that have occurred and direct feeling of pleasure and unpleasure which give the effect of its key notes" (p. 395).

Chapman (1967) described the term affect as it is used in psychiatry to "designate a person's feeling, tone or prolonged emotional feeling state" (p. 33). He also felt that most psychiatrists use the word affect and emotion interchangeably and that those who do distinguish between affect and emotion do so on the fact that emotion is considered to be a briefer state of a strong feeling whereas affect has a more prolonged feeling time.

Ketal (1975) discussed the use of the words affect, mood, emotion and feeling and the fact that they are often used interchangeably and very inconsistently. Berrios (1985) felt that disorders of affect have not been given enough emphasis in terms of their relation to descriptive psychopathology and therefore they have not been utilized to the degree that they can be in the definition of mental disease. He attributes this partly to the fact that there have been no instruments to measure the intensity of clinical affect in situations where it would warrant being investigated in association with psychopathology.

Leff (1978) found that the psychiatrists' concepts of anxiety and depression showed a correlation of zero whereas the patients' concepts of these affects overlapped to a considerable degree. Leff (1973) further talked about emotional states in relation to a person never being able to totally understand the experience of another, just as our own experiences are not directly experienced by other people. He stated that we use empathy to get closer to another's experience and we try to imagine ourself in the same situation but we really evaluate the person's experience with our own feelings and judge that experience based on our own formative feelings which is not always accurate in assessing how the other person feels. This can be linked to low role-taking ability that has been identified in personality disorder subjects, where the person has difficulty interpreting how another person views him or her.

Two major concepts emerged in the literature on affect that may have an influence on personality, that of 'aprosody' and 'alexithymia'. The concept of aprosody has gained attention particularly in the neuropsychological literature. It has been defined as "a failure or complete absence of normal pitch, rhythm and stress of pronunciation that bestows certain semantic and emotional meaning to speech" (Ross and Messaulem, 1979). This concept has been applied particularly to the patient population suffering from focal lesions in the right hemisphere of the brain. It was

suggested that verbal-cognitive constructs provided by patients with nonendogenous depression and an underlying personality disorder are better matched to their dysphoria than those with endogenous depression. An extensive literature review of the concept "aprosodia" revealed a focus that was mainly neurological and it was difficult to see how this area of research could be applied to patients with personality disorder at the present time.

The concept "alexithymia" was originally coined by Sifneos (1973). It is a concept that has some similarity to aprosody and has been defined as "absence of words to describe feelings" (Apfel and Sifneos, 1979). Alexithymic patients have restricted expression of affect. Sifneos suggested that patients with paranoid and borderline personalities show alexithymic characteristics even though the types of emotional difficulties were non-specific.

Taylor (1984) referred to alexithymia as "a specific disturbance in psychic functioning characterized by difficulties in the capacity to verbalize affect and to elaborate fantasies" (p. 725). The term alexithymia is a difficult concept to operationalize and while there are a few instruments that have been developed for measurement, none have good validity and reliability. Yet, the concept appears to have implications for treating patients in both medical and psychiatric settings. It is difficult to ascertain whether or not alexithymia is a developmental defect. If it

is, then there are definite implications for observing its presence or absence in types of personality disorders.

Within the discussion of affect as it relates to Personality Disorder is life events. The concern is the reaction to major significant events in a person's life. It is of interest to note different responses to a set of common stressful life events. If patients with personality disorder, particularly the DSM-III Cluster B group, report more life events than typically depressed patients without personality disorder, then this would have definite implications for case management. Brown (1974) and Brown and Harris (1978) did extensive work with depressed patients and their accounts of stressful life events and made it clear that life events alone are not sufficient to understand causality and suggested that the translation of life events into final pathology is determined by mechanisms that are both internal and external to the individual. Paykel, Prusoff, and Uhlenhuth (1971) through using a scale of life events, felt that they may facilitate the use of a quantified methodology in empirical studies of life events. The research surrounding methods for life events measurement was continued by Paykel and has relevance to the relationship between coping, personality and stress levels (Paykel, 1974; Paykel, 1983).

3. How Personality Disorder is diagnosed

"The matter of personality disorder remains one of the most controversial problems in all psychiatry. Some would abandon the concept altogether; others find it clinically valuable while seeking to improve the reliability of terms used" (Trethowan and Sims, 1983). Part of the difficulty lies in the fact that personality disorders are viewed as deviations from the norm. If one is to believe that each person has a unique personality, then it is difficult to decide what is 'deviant' behaviour.

Disorders of personality have proven to be resistant to satisfactory classification that could be acceptable in both clinical and research practice. Jaspers (1963) stated the following regarding personality disorder, "variations of human nature that deviate from the average, cannot be called sick as such and are not necessarily clinically abnormal". In order to measure such characteristics, careful definition is necessary but often difficult. Attempts to define Personality Disorder have been made by both the DSM-III and the ICD-9 classification systems, but with limited success and lack of agreement.

Two personality types in the DSM-III classification system are not found in the ICD-9 classification, that of schizotypal and borderline personality disorders (Tyrer and Ferguson, 1987). The classification of personality disorder when more than one is evident has caused difficulties. In

addressing this, a hierarchial system, rank ordering in terms of precedence of type can be used or all the personality disorders can be listed as equals.

The case finding method is one method for identifying personality disorders. According to Wing (1980), the term case "in clinical psychiatric research implies that the investigator wishes to identify the presence or absence of some clinically relevant disorder or disorders in a human population". 'Case' when applied to personality disorders becomes complex since there tends to be low reliability among raters for these conditions. Case findings can then be problematic because there is not a systematic way of identification throughout the world. Wing (1980) claimed that "the simplest technique of case identification is for a well-trained psychiatrist to interview all the members of the population under review and to make a diagnosis" (p. 5). Even though this remains a popular method of case finding, it is not necessarily the best nor the most reliable technique.

In reviewing diagnostic classification systems, the ICD-9-CM (1977) tends to give vague overlapping descriptions of personality disorders. Clinicians using the system of classification would certainly have difficulty with reliability of diagnosis for case identification. The Diagnostic and Statistical Manual of Mental Disorders third, revised edition (1987) has a more systematic approach for classifying personality disorders through a multi-axial system and seems

to offer a more reliable way of case finding for personality disorders. However, the classification involves over a hundred criteria that a physician must become familiar with in order to diagnose effectively. Furthermore, not all criteria are exclusive to one condition. Even though attempts have been made to correct this in the revised edition of the DSM III, it still exists. As a result, psychiatrists may under utilize some types within the classification system. There is no specific reason why DSM-III contains eleven distinct personality disorders. With the exception of antisocial personality disorder and to a lesser extent borderline personality disorder, there were no empirical studies from which to derive valid criteria sets for each individual personality disorder in DSM-III (Kroll and Ogata, 1987).

Livesley (1985) discussed the choice of category concept for diagnosing of personality disorders. He recognized the fact that categories are imprecise and that membership in categories is probablistic. He felt that the categorical system for diagnosing personality disorder certainly creates difficulties. The dimensional systems proposed as a solution posed to this problem, also has difficulties because there is no consensus regarding the basic dimensions. He proposed polythetic and prototypic categories as alternatives to classifying personality disorders. In the polythetic categorization, members that

fall into categories will possess large numbers of attributes common to one another but not all attributes will be possessed by all members. Therefore a continuum will be created with those close to one another on the continuum resembling each other closely and those at opposite ends having very little resemblance. Prototypic categorization is also organized around a continuum and is thought to be useful in the classification of personality disorders. The concept of the closeness of resemblance in a prototypical personality disorder provides an alternative approach to category definitions. Again, there can be a gradient of membership here that can be correlated positively from one person to the other. This does not exist using the DSM-III categories because they tend to overlap and lack distinctiveness. It is also thought that the use of prototypes could improve reliability of diagnoses, because the focus would be on the patient rather than the performance of clinicians.

Livesley (1985 b) critiqued current classifications of personality disorder which he believed fail to attain satisfactory levels of diagnostic reliability. This is particularly important in research studies where lack of reliability cannot ensure generalization from one investigation to the other even though the patient may be labelled with the same diagnosis. Livesley felt that part of this problem is due to the operational format of the DSM-III classification system, because in using the Axis II

diagnoses, trait judgments have to be made and the symptomatology that defines these categories is less distinct and much less operational than those that define Axis I diagnoses. Even though progress has been made with the DSM-III, it is thought that difficulties still exist in having a broad consensus among clinicians about the traits that constitute different personality disorders.

Livesley stated that if personality disorder diagnoses are to be more reliable, then they really need to be based on observable behaviour versus subjective impressions of clinicians or those testing the patient. He argued that specific behaviours are the personality equivalent to symptoms of illness in other situations and felt that if the criteria measurements were based on behaviours then there would be much greater inter-rater reliability in terms of clinicians' assessments. This would improve research reliability because clinicians would be better able to agree upon the diagnoses of personality disorders than they can under the present systems.

Howard (1985) discussed this problem in relation to psychopathy. He suggested that there is a class of individuals that are true antisocial personality disorders according to DSM-III criteria and these would be people who show chronic antisocial behaviour with an early onset and who suffer from a developmental condition that manifests itself in adulthood. These people would be very impulsive and would

show a lack of coping as a result of this. He categorized psychopaths into primary and secondary classifications where the secondary psychopaths would show some EEG anomalies and behaviour deficits on challenging tasks and where psychometrically, their distinguishing features from primary psychopaths would be social withdrawal and low IQ. Primary psychopaths would be highly susceptible to boredom stress and would respond to this by engaging in pathological sensation seeking behaviour. This would agree with Livesley's account of categories for diagnosing personality disorders in that Howard focuses on behavioral issues in assessing this particular situation.

Jablensky (1986) looked at non-psychotic disorders, personality deviations and behavioral abnormalities as being problematic and examined the implications of this for the tenth revision of the ICD-9. He felt that a classification system in this area needs to be eclectic and that a mix of classificatory strategies is perhaps the best response. This seems to be difficult in terms of generating reliability, for research studies particularly in the area of epidemiology.

Improved reliability of judgments about the presence of features of personality disorder may be associated with the development of structured interviews. Loranger, Sussman, Oldem and Russacoff (1985) developed a personality disorder examination based on Axis II criteria for the DSM-III-R. "The inter-rater reliability of the PDE

proved to be excellent in a preliminary study of sixty patients" (Loranger, et al p. 2).

Another method of case identification is that of typologies. Typologies are composed of a dimensional system which encourages the representation of individuality and uniqueness. There is a limited literature addressing reliability of typologies. Presley and Walton (1973) found that psychiatrists achieve low levels of agreement about the diagnosis of personality disorders, although they achieve good levels of reliability by rating traits. Standage (1986) compared Schneider's and the DSM-III typologies of personality disorders and found his results suggested that different classifications of personality disorders share a common formal basis, and demonstrate a link between descriptions of normal and abnormal personality.

Any attempt at classifying personality disorders requires clinical justification in view of the confusion that already exists about the nature of personality disorder. The best justification would be the development of treatment approaches for different types of disorder. For example, goal-oriented limit setting may be appropriate for the treatment for the histrionic personality disorder and is equally likely to be contraindicated for schizoid personality disorder.

The general dissatisfaction with existing systems of classification has led a number of investigators, mostly

psychologists, to undertake the task of designing a model for measuring personality that is adequate for both research and clinical work (Penna, 1981). Opinions about models based on clinical judgement versus psychodynamic assessment are divided. Questions arise about psychometric tests having in the former, to focus upon the clinical judgement process and in the latter, the person - clinician interactions (Mischel, 1971).

Phenomenology offers an interesting approach to assessment of personality. In this approach, the person is his/her own assessor and life experiences are described from how that person perceives them. This leads to the question of how well a person can describe themselves. How accurate is their personality self-profile? It is often useful to use an objective test measure for comparison to this more subjective assessment. Mowbray, Rogers and Mellor (1979) addressed personality in relation to culture and felt that what is considered as the 'norm' for personality is often culturally bound. They further stated that in psychological medicine, an understanding of the patient's personality is essential, not only for diagnosis but also for prognosis.

Epidemiological findings, cross national differences in psychiatric diagnoses have been reported. Kramer (1969) and Zuben (1969) investigated whether reported differences in diagnostic distribution between psychiatric patients in the United States and those in the United Kingdom

were real or due to differences in diagnostic criteria.

Kendall, Cooper, Gourlay and Copeland (1971) also explored diagnostic criteria of American and British psychiatrists through the use of videotapes. ICD-8 was used as criterion for presence of mental illness. British psychiatrists tended to diagnose presence of personality disorder more readily than their American counterparts. British concepts of diagnostic criteria, in general, seemed more specific with little overlap whereas the American's concept of schizophrenia overlapped the British concepts of depressive illness, mania, personality disorder and neurosis. This, and similar studies led to the development of the DSM-III, which attempted to improve diagnostic criteria, and consequently clinical and epidemiological investigations of psychiatry.

The epidemiological literature in psychiatry is deficient in the area of personality variation and personality disorder. Most of the studies reviewed related only partially to personality variation or disorder. Only the more recent literature addressed personality disorder as a main focus and those that did generally observed presence or absence of one particular disorder, making it impossible to generalize results. For example, Howard (1986) examined the varied uses of the concept 'psychopathy' from a European and American perspective. The differences cited have an effect upon the reports of prevalence of this type of

personality disorder and one would assume that this finding could be generalized to other types of personality disorder.

Casey and Tyrer (1986) used structured interview schedules to report the prevalence of personality disorder and psychiatric illness in a random sample in the community. They found that there was a significant association between the diagnosis of personality disorder and Present State Examination (PSE) caseness. However, the relationship is a complex one due to the absence of relationship with specific diagnostic categories in that no one personality disorder was more associated with a particular psychiatric illness than another. Casey and Tyrer stated that the specific role that personality plays in determining whether or not the ill person consults a psychiatrist, presenting symptoms needs further exploration. Since the most common symptom for admissions to a psychiatric acute care setting is depression, this raises the question of whether or not persons admitted with depression might also have personality disorder as a contributing factor in their illness.

Observations from many sources suggest that some traits of personality are normally distributed. Some view the traits on a continuum with normal at one extreme and maladaptive or deviant at the other point. This makes it difficult to quantify the prevalence of personality disorders using clinical judgement. It also raises the question of whether or not extreme degrees of development of normally

distributed traits constitute personality disorders. More research is needed in this area focussing on the prevalence aspect of personality disorder, using reliable methods of case finding whose relationship to clinical concepts can be specified.

Prior to DSM-III criteria for personality disorder identification, it seemed that psychiatrists had very loosely defined criteria for identifying personality disorder and their subjective opinions were often a part of case identification. This factor plus the low numbers presenting in a psychiatric setting may indicate that the prevalence of personality disorders is underrated in the general population. Further to this, it is unclear what criteria general practitioners use to recognize personality disorders and little information is available on how such patients present to a general practitioner.

4. Measurement of Personality

There are numerous scales that evaluate personality traits/characteristics. From the beginning, Galton (1883) pioneered the field of research into human individual differences. One of his achievements was a statistical analysis of association of ideas, the tendency for one idea to call up another. He was also the first to experiment with the questionnaire technique (Hill, 1966, p. 36). Galton, in association with J.M. Cattel, published the first set of

mental tests for studying psychological differences.

Later R.B. Cattel, (1966) approached the study of personality through trait analysis. He derived sixteen personality factors by using factor analysis. Many of the findings reported by Cattel are in agreement with clinical observations. Cattel's scales and those of Eysenck can be seen as complementary.

Eysenck (1970) favoured a dimensional approach instead of categorical descriptions of behaviour disorders. His measurement focuses on dimensions of extraversion versus introversion, neuroticism versus stability, and more recently a psychoticism scale. The investigator, in a previous study, found that histrionic personality disordered female inpatients had higher neuroticism and extraversion scores, using the Eysenck Personality Inventory (Smith, 1982). Whether or not this can be generalized to other personality disorders needs to be established.

Lorr (1970) used a typological approach to psychodiagnostics. His inpatient multidimensional psychiatric scale consists of ten factors, or unitary dimensions of behaviour, which allowed him to explore whether these ranges of behaviors would enable his cases to be grouped into homogeneous subtypes. Although he worked with psychotic patients, his methodology can be applied to the classification of personality.

The Minnesota Multiphasic Personality Inventory has

ten dimensions and three validity scales which produces a personality profile that measures pathological personality characteristics and patterns (Schugar and Cameron, 1985).

The California Personality Inventory (1975) is a multidimensional scale that measures eighteen different factors. Gough (1975) created a subscale of this inventory called the Socialization Scale and used it in several studies to show that psychopaths and delinquents had difficulty in interpreting others opinions of them as individuals. He also created standard scores by administering the scale to normal members of the population. Both Schalling and Hare (1978) have observed that the Socialization Scale (SO) Scale is congruent with clinical features of psychopathic personality. The psychometric tests described have been administered to samples of normal populations and standard norms have been established, however accounts of the distribution of these variables in communities are lacking. Moreover, few studies have successfully related them to clinical concepts of personality disorders. The Socialization Scale has shown that personality disordered individuals receive significantly lower scores than those who are not. Smith (1982) and Standage, Bilsbury, Jain and Smith (1984) applied this test to a group of histrionic disordered women and found that they scored significantly lower than a group of match controls free from personality disorder. Standage (1986) further showed that personality disordered individuals scored low on

the Socialization Scale, indicating that this scale has value as a potential screen in identifying personality disorder. However, Standage also observed that there is also a group of low scorers who have not been labelled personality disordered.

Psychometric measures may or may not correlate with clinical diagnosis and therefore their potential value as a method of case finding for research and personality disorders has yet to be realized.

B. Section 2

1. Diagnostic Schemas for Depression

"Depression is a highly prevalent disorder in the general population" (Klerman and Weissman, 1988, p. 807). Fifty percent of patients have the onset between ages 20 and 50 (Kaplan and Sadock, 1988). The most serious of the pathological states of mood and affect are the mood disorders - depression and mania. In DSM-III, depression and mania were called affective disorders; in DSM-III-R, they have been labelled mood disorders (Ibid, 1988).

The mood disorders are mental conditions in which disturbances of emotion are predominant (Klerman and Weissman, 1988). This group of disorders, particularly unipolar depression are among the most common psychiatric disorders in adults. The clinical depressive syndrome has been defined by DSM-III criteria as including persistent mood

disturbance, appetite change, and weight loss, changes in psychomotor activity, sexual dysfunction and significant cognitive changes manifested by feelings of helplessness, hopelessness and worthlessness and associated with impairment of functioning (American Psychiatric Association, 1980). The general category of mood disorders replaced those of psychotic and neurotic depression.

The diagnosis of Major Depression includes people with a depressive syndrome who have not had a manic episode. Even though it is a heterogeneous group, there is disagreement in the two major classification systems as to the subdivision of the syndrome. In the DSM-III-R, the diagnostic classification is Major Depressive Disorder (with or without melancholia) (American Psychiatric Association, 1988). In the ICD-9, depression is classified according to the degree of impairment and is subdivided into neurotic and psychotic categories (World Health Organization, 1977).

In discussing the condition of depression, one is again challenged as with personality disorders in quantifying the behaviours that can be considered pathological from those that are considered to be normal patterns of human behaviour.

Stress from life events have been linked to depression. The actual role that it plays in the development of depression is inconclusive. Many clinicians believe that life events contribute to the onset and timing of the actual episode.

Genetic, biological and psychosocial factors have all been considered as precipitating factors leading to depression. In categorizing depression, there has been considerable criticism that the DSM-III concept of Major Depression is too broad and all inclusive. However it does have good reliability in diagnostic studies and has provided a diagnostic base for many investigations of depression (Klerman and Weissman, 1988).

The DSM-III-R diagnoses of Major Depressive Disorder and Bipolar Depression are sometimes referred to as primary depressions. Secondary depression is a term which refers to depression that is a component of some other psychiatric disorder or medical condition (Kaplan and Sadock, 1988). Both primary and secondary depression have importance for this investigation.

One of the common psychiatric conditions found in patients who develop secondary depression is that of dependency, both drug and alcohol dependency. These patients often develop symptoms that lead to Major Depression and therefore can have the complications of both conditions during a course of treatment.

Whether or not a patient is admitted to hospital for depression is an important decision in treatment. A literature review showed that there is limited literature available addressing this issue. Kaplan and Sadock (1988) believe that hospitalization is the first and most critical

decision the physician must make and feel that risk of suicide or homicide, a grossly reduced ability to care for oneself including activities of daily living and the need for diagnostic investigations are good indicators for hospitalization. Other indications for hospitalization could include symptoms that have rapidly progressed and disintegration of usual support systems. Even in mild depressions, the patient should be assessed carefully and have a strong support network if they are to be treated as outpatients.

The identification of symptoms and the diagnosis of depression is less problematic than that for personality disorders. Even though it is not without controversy, investigations can be conducted with more validity and reliability than for the Axis II diagnoses.

In considering the symptoms of depression, two other categories of diagnosis have to be considered, that of Adjustment Disorder - Depressed Mood and Dysthymic Disorder. Both are DSM-III-R diagnoses, and are important because they resemble Major Depression in some aspects and must be distinguished from Major Depression prior to commencement of treatment. Adjustment Disorder Depression results from a maladaptive response to a stressor that interferes with the person's usual coping patterns and results in depressed mood, tearfulness and feelings of hopelessness. Although hospitalization may not be as strongly indicated for this

group of patients, hospitalization may occur to deal with the crisis episode or to allow assessment for establishment of the diagnosis considering the differential of Major Depression. Dysthymic Disorder is identified by its duration, greater than two years, and its symptomatology, which essentially is that of a mild form of major depression. It is obvious that patients with this condition are unlikely to be admitted to hospital unless there is some complication factor.

2. Measuring Severity of Depression

"In the literature, there is lack of agreement on which behaviours typically reflect depression and which are most significant for assessment, treatment and prognosis" (Stuart and Sundeen, 1987, p. 453). Since many of the behaviors associated with depression can also be associated with other psychiatric conditions, this can complicate the clinical picture. In Beck's review of proportions of depressed patients manifesting various symptoms, the cardinal symptoms reported included feelings of helplessness and inadequacy, loss of motivation, psychomotor retardation, crying spells, loss of interest and enjoyment, indecisiveness, self-devaluation, dejected mood, sleep disturbance, fatiguability and pessimism (Beck, 1973). The severe intensity of feelings such as these may precipitate a suicide attempt which always needs to be assessed and

considered in a patient.

Specific standardized scales have been constructed as methods of case findings in general psychiatry. Among the most common ones are the Beck Depression Inventory, the Hamilton Rating Scale for Depression, Minnesota Multiphasic Personality Inventory, the Zung Self-rating Depression Scale and the Depression Adjective Checklist (Stuart and Sundeen, 1987). The Montgomery-Asberg Depression Rating Scale is an example of a newer scale developed to measure change in depression which has been found to have at least as good a predictive value as the Hamilton while being much shorter in length (Montgomery and Asberg, 1979).

Depression rating scales such as these can be useful in documenting the clinical state of depressed patients. However, these scales have limitations. Boyd and Weissman (1981) observed that according to the Research Diagnostic criteria, the relationship between high scores on a depressive symptom scale and meeting the criteria for a depressive disorder is a modest one. For example, there may be differences in how a patient subjectively evaluates him/herself from how he/she is objectively evaluated. It is possible for people who are clinically depressed to be missed on a depression rating scale particularly if they are denying the symptoms of their depression. It is also possible for a person to rate themselves as being depressed when they do not have the corresponding symptomatology of depression.

However, these scales are useful when they can be used together and compared. For example, if a self-rating scale is used in conjunction with an objective rating scale, then the information can be used more effectively to screen for the presence of false-positives and false-negatives. When used in this way, depression rating scales can provide a useful baseline from which to observe and collect further data from the patient. The Diagnostic Melancholia Scale is a scale that has been developed to measure distinct presence or absence of endogenous and reactive symptoms (Bech, Allerup, Gram, Kragh-Soreneen, Rafaelsen, Reisley, Vestergard et al.,1987). This scale could serve as an adjunct to the clinical judgement of the psychiatrist, providing supplementary information.

C. Section 3

1. Relationship between Personality Disorders and Depression

a. Causal Relationships - A review of the literature showed that there have been attempts to link Personality Disorders and Affective Disorders or depression especially Borderline Personality Disorder. Winokur (1985) stated that "In essence, our criteria imply that the major problem is a lifelong problem that on occasion, breaks down into a major depression or dysthymic picture" (p. 1120). In this sense, the lifelong problem was the personality disorder or personality difficulty with the secondary problem being that

of depression.

Kroll and Ogata (1987) found in the studies that they reviewed that 20-60% of patients identified with Borderline Personality Disorder had a concomitant depressive disorder. If this is a true estimate, then the clinical picture of many patients admitted for depression can be clouded by an underlying personality problem. Borderline Personality Disorder often cannot be distinguished from other personality disorders of the Cluster B type (Kroll, Sines, Martin, Lari, Pyle and Zander, 1981; Barrash, Kroll, Carey and Sines, 1983). This can mean that many people identified as having Borderline Personality Disorder may also have other personality disorders or may have a Cluster B type other than Borderline Personality Disorder. Therefore, types of personality disorder other than Borderline would be included in the 20-60% estimate of those having depression also having Personality Disorder.

A study by Koenigsberg, which was a retrospective chart review of the relationship between Axis I and Axis II, DSM-III diagnosed conditions in 2462 patients, showed that 23% of the major depressive disorder patients had personality disorders. They found that the major affective illnesses were less often associated with personality disorders than substance abuse, anxiety and somatoform disorders (Koenigsberg, Kaplan, Gilmore and Cooper, 1985). This is of importance when considering the symptomatology of all

patients admitted to hospital with the mentioned disorders since it may result in many patients being treatment resistant.

Charney, Nelson and Quinlan (1981) found personality disorders in 61% of their unipolar nonmelancholic depressed patients. Pfol, Stangl and Zimmerman (1984) found that 51% of inpatients identified as having Major Depression using DSM-III criteria had concurrent personality disorders. The studies reviewed show discrepancies in the frequency of concomitant diagnoses of depression and Personality Disorders. This could be partially attributed to the methods used for identification of the disorders in the selection of patients. What is important is that there is an overlap in Axis I and Axis II diagnoses in a proportion of patients irrespective of the method used and this has importance for the treatment and care of these individuals especially when hospitalized since the care then becomes more centralized and comprehensive.

In reviewing the types of depression developed by those persons with personality disorder, one might assume that they develop depressions of less severity since their coping ability is already reduced by a maladaptive personality. Therefore, persons with personality disorder could be expected to develop symptoms of depression more easily due to the way they live their lives. Kroll and Ogata (1987) agreed with this and found that the prevalence of

personality disorder, irrespective of type, in depressive disorders varies with the subcategory of depression with considerably higher levels found in nonendogenous depressions.

McGlashen (1986) found that Borderline Personality Disorder when associated with unipolar Affective Disorder had effects that included an earlier onset and absence of psychotic symptoms on baseline assessment. This also indicates that the co-existence of a personality disorder and depression affects the quality of the depression even when it is a major depression.

The literature does not suggest that the high rate of coexistence of depression and personality disorder implies causality in the sense that the depression brings out the behaviours that characterize a personality disorder. However, if there is already an underlying personality disorder, this could have predisposed a person to develop a secondary disorder such as depression or substance abuse.

b. Effect upon the management of depression - It is thought that the overall management of a depressed patient with a coexisting personality disorder is a challenging and complex process due to underlying maladaptive coping even in the absence of depressed symptomatology. Winokur, Black and Nasrallah (1988) studied 401 patients with depressions secondary to psychiatric illness such as personality disorders, substance abuse, somatoform or anxiety disorders.

They found that

> ...patients with depressions secondary to psychiatric illnesses had an earlier age at onset, were more likely to have suicidal thoughts or to have made suicidal attempts, were less likely to have memory problems, were less improved with treatment and more likely to relapse on follow-up and had more alcoholism in their families than patients with depressions secondary to medical illnesses (p. 233).

Based on this one would expect a more complex treatment regime is required to manage such individuals.

Charney et al. (1981) noted that the concurrence of personality disorder and affective illness resulted in worse outcome. Pfohl, et al. (1987) said that outcome for the depression was especially poor in patients meeting criteria for multiple personality disorders from multiple DSM-III clusters. They further felt that inpatients with depression who met multiple personality disorders across clusters were half as likely to show improvement at discharge and at a 6 month follow-up than those with a single or lesser number of personality disorders.

Higher rates of hospitalization can also be expected from this group since they tend to drop out of treatment more and thus keep re-entering the health care system. Carpenter, Mulligan and Bader (1985) suggested that there is significantly more noncompliance with medication common in depressed patients with concurrent personality disorders who have multiple admissions than those with depression as a single diagnosis. Again, this supports a

more complicated treatment picture for personality disorders who become depressed.

Rutter (1986) stated that psychological functioning is affected by stressors and chronic adversities, but he felt that the effects of life experiences are influenced by how individuals perceive them and how they respond to the challenges involved in order to adapt to the situation affecting their lives. In considering personality disorders with depression, this can have serious implications since the response to stress is often inappropriate in these persons. While it is clear that experiences can change individuals, it is also clear that a person's reaction to life stressors can lead to a selective change in the person's environment. Related to reactions to stress are the coping responses used. McGlashin (1987) found more substance abuse and more use of psychiatric treatment in patients with comorbid Borderline Personalty Disorder and depression.

The literature suggests a much stormier course in response to treatment for depressed patients with an underlying personality disorder. If there is a sizeable proportion of depressed patients with personality disorder, then it is crucial to make this diagnosis early in the assessment. The assessment of personality disorder may be overlooked until they show an aberrant response to treatment, become simply treatment resistant, or relapse.

D. Section 4

1. Issues

This chapter has focused on the issues surrounding the identification of cases with personality disorders and their relationship to Axis I diagnoses in the DSM-III-R. There are numerous theories and definitions of 'personality disorder', none of which are universally accepted and this creates difficulty when attempting to identify patterns with behaviors that are deviant or existing psychopathology.

Typological approaches and psychometric measures have been developed in an attempt to create a classification system which is adequate enough to be adopted by clinicians worldwide. Thusfar, no such system has been created rather, large discrepancies exist among such approaches which leads to reduced credibility.

Researchers recognize the difficulty in case finding methods presently in use and acknowledge that this creates limitations in their research. A concise reliable classification method that is congruent with the clinical features of personality disorder is essential if epidemiological methods of case findings are to improve and further, if adequate treatment regimes are to be created for patients with such conditions.

It is for this reason that the researcher has chosen to combine both the psychometric approach and the clinical evaluation approach in determining caseness of

personality disorder for this study. An examination of the various psychometric methods of measurements for both personality disorder and depression led to the selection of those thought to have the better validity and reliability in judging caseness for both personality disorder and depression. The researcher has further used a clinical evaluation done in a systematic way, the Personality Disorder Examination (Loranger, et al, 1985) to clinically judge, in addition to psychometric measurement, whether or not the person has personality disorder.

This review has identified the difficulties that attend the identification of patients with personality disorder. In an initial study that aims to examine the methodology of personality assessment, and to estimate the contribution that such patients make to psychiatric morbidity, a limited sample of the psychiatric population is appropriate. The most easily accessible, conspicuous, and costly to the health care system are inpatients admitted to general hospital psychiatric units. Patients are admitted to hospital because they have disabling symptoms and not because they primarily have a diagnosis of personality disorder. It is therefore appropriate to screen patients admitted with the most frequently observed symptom disorder, that of depression for the presence of personality disorder. If it is possible to estimate the proportion of such patients who have personality disorder, then the focus of treatment can be

directed to the patients' specific needs. In addition, a disciplined approach to the accurate identification of personality disorder would increase our knowledge of the epidemiology of personality disorder and its contribution to psychiatric pathology in the area of depression.

E. Objectives of the Present Study

1. General Hypothesis

Based on this review of the literature, it is postulated that personality disorders make a substantial contribution to psychiatric morbidity. The major area of interest is that of patients admitted to the hospital with depression. The association between personality disorder and depression will be more evident in those patients with diagnoses of adjustment disorders and perhaps secondary depression. In all diagnostic categories of depression, including major depressive disorder, the presence of personality disorder will be associated with an increased level of general severity. The characteristics of depressed patients with personality disorders that may contribute to this apparent severity and to their admission, will be reduced levels of tolerance to stress, higher levels of social incompetence and social failure, more difficulties in occupational functioning, and a tendency to report psychological distress more readily than those without personality disorders.

2. **Definitions**

In order to state specific hypotheses the following terms will be used and therefore need to be defined:

a. **The Sample**: a random sample of hospital patients who have depression as a major presenting symptom (Depression will be operationally defined later, in the Methodology).

b. **Personality Disorder Group**: all the patients within The Sample, who, when they have recovered from depression, are diagnosed as having personality disorder using the PDE.

c. **Normal Personality Group**: all the patients within The Sample who, when they have recovered from depression, do not have a diagnosis of personality disorder, using the PDE.

d. **Major Depressive Disorder Group**: all patients within The Sample who have the diagnosis of major mood disorder, unipolar depression, based on the DSM-III-R criteria.

e. **Adjustment Disorder Depressed Group**: all patients within The Sample who have an adjustment disorder with depressed mood based on DSM-III-R criteria.

f. **Secondary Depressive Disorder Group**: all the patients within The Sample whose depression is attributable to a primary psychiatric disorder that is not major depressive disorder, adjustment disorder or schizophrenia.

3. Specific Hypotheses

The following specific hypotheses can be derived from the general postulate about the relationships between personality disorder and depression:

1. Within the Sample of patients admitted to general hospital psychiatric units who have a depressed mood, irrespective of the primary diagnosis, a proportion will be found to have personality disorder.
2. Within the Sample of depressed patients, those with personality disorder (Personality Disorder Group) will differ from those without personality disorder (Normal Personality Group) on the following variables:
   a. **Age**. Those patients with personality disorder will be more likely to require admission to hospital at an earlier age than those patients with normal personality. Specifically, the Personality Disorder Group have a lower mean age than the Normal Personality Group.
   b. **Beck Depression Inventory**. Those patients with personality disorder will describe themselves as being more depressed than those without personality disorder. Specifically, the Personality Disorder Group will have a significantly higher mean score on a self-rating measure of depression, the Beck Depression Inventory than the Normal Personality Group.

c. **Hamilton Rating Scale for Depression**. Those patients with personality disorder will be assessed objectively as not being as depressed as those without personality disorder. Specifically, the Personality Disorder Group will have a significantly lower mean score on an objective rating scale of depression, the Hamilton Rating Scale for Depression than the Normal Personality Group.

d. **Eysenck Personality Inventory**. Those patients with personality disorder will be more extraverted and neurotic than those without personality disorder. Specifically, the mean Extraversion and Neuroticism scores of the Personality Disorder Group will be significantly higher than those of the Normal Personality Group.

e. **Length of Stay**. Patients with personality disorder will require a longer period of hospital treatment than those with normal personality. Specifically, the mean length of hospital stay will be significantly longer for the Personality Disorder Group than the Normal Personality Group.

f. **Socialization Scale**. Those patients having personality disorder will have deficient role-taking ability; patients without personality disorder will have normal role-taking ability. Specifically, the mean score of the Personality

Disorder Group will be lower on the Socialization Scale than that of the Normal Personality Group.

g. **Stress Score**. Those patients with personality disorder will be assessed on an objective measure as having a lower level of stress than those without personality disorder. Specifically, the stress level of the Personality Disorder Group as measured by the DSM-III-R, Axis IV will be significantly lower from that of the Normal Personality disorder Group.

h. **Life Events**. Those patients with personality disorder will report a higher frequency of "Life Events" causing stress than those without personality disorder. Specifically, the Personality Disorder Group will have a significantly higher number of reported "Life Events" than the Normal Personality Group.

i. **Alexithymia Scale**. Those patients with personality disorder will demonstrate more extreme emotional expressions of behaviours as measured by the Alexithymia Scale than those with normal personality. Specifically, the Personality Disorder Group will have a significantly higher or lower mean score on the Alexithymia Scale than the Normal Personality Group.

j. **Diagnostic Melancholia Scale**. Those patients with personality disorder will be more likely to have depressions that are reactive to psychological and social events, whilst those without personality disorder will be more likely to become depressed because of endogenous factors. Specifically, the Personality Disorder Group will have a significantly higher "reactive depression" mean score and a significantly lower "endogenous depression" mean score on the Diagnostic Melancholia Scale than the Normal Personality Group.

k. **Number of Admissions**. Those patients with personality disorder will have a greater number of past admissions than those without personality disorder. Specifically, the mean number of admissions for the Personality Disorder Group will be greater than that of the Normal Personality Group.

l. **Global Assessment of Functioning**. Those patients with personality disorder will report more difficulty in coping with life situations than those without personality disorder. Specifically, the Personality Disorder Group will have significantly lower mean scores on the Global Assessment of Functioning Scale of the DSM-III-R than the Normal Personality Group.

m. **Social Functioning**. Those patients with personality disorder will function less well in social situations than those with normal personalities. Specifically, the Personality Disorder Group will have a significantly lower mean score on a social functioning measure than the Normal Personality Group as self-reported.

n. **Work Performance**. Those patients with personality disorder will function less well in work situations than those with normal personalities. Specifically, the Personality Disorder Group will have significantly a lower mean score on work performance than the Normal Personality Group as self-reported by the patient.

3. The different diagnostic categories of depression will show the following:

a. The Major Depressive Disorder Group will have fewer members with personality disorder than Adjustment Disorder Depression Group, and than Secondary Depression Group.

b. Personality disorders of the Cluster B, DSM-III-R type will be found relatively less frequently in the Major Depressive Disorder Group than in the Adjustment Disorder Depression Group and the Secondary Depression Group.

c. There will be an association between specific types of personality disorder and specific diagnostic categories of depression.

d. Within each diagnostic category of depression, the Personality Disorder Sub-Group will differ from the Normal Personality Sub-Group on the same variables, and in the same direction as stated in Hypothesis 2, for the Sample as a whole.

4. Comparison between the Personality Disorder Sub-Groups within each Diagnostic Category Group will show the following:

a. The Major Depressive Disorder/Personality Disorder Sub-Group will have lower mean alexithymia scores than the Adjustment Disorder/Personality Disorder Sub-Group and the Secondary Depression/Personality Disorder Sub-Group.

b. The Adjustment Disorder/Personality Disorder Sub-Group will report more life events causing stress than the Major Depressive Disorder/Personality Disorder Sub-Group.

c. The Major Depressive Disorder/Personality Disorder Sub-Group will have a higher mean score on the Hamilton Rating Scale for Depression than the Adjustment Disorder/Personality Disorder Sub-Group

and the Secondary Depression/Personality Disorder Sub-Group.

d. The Major Depressive Disorder/Personality Disorder Sub-Group will have a higher mean score on the "endogenous" component of the Diagnostic Melancholia Scale than the Adjustment Disorder/-Personality Disorder and Secondary Disorder/Personality Disorder Sub-Groups.

e. The Adjustment Disorder/Personality Disorder Sub-Group will have a higher mean score on "reactive" component of the Diagnostic Melancholia Scale than the Major Depressive Disorder/Personality Disorder Sub-Group.

II. METHODOLOGY

A. Overview of research strategy

This study examines the contribution that subjects with personality disorders make to the sum of psychiatric morbidity and the factors associated with such subjects developing psychiatric symptoms. It focuses, for the reasons given in the Introduction, upon one part of the total picture that of inpatients in general hospital psychiatric units and as a further constraint considers only those with the symptom of depression.

In clinical work, personality disorders come to attention and treatment because they develop symptoms of psychological distress. This study takes what is probably the most frequent symptom that personality disorders manifest in a clinical setting, that of depression and examines its relationship to personality disorders.

In order to discover the role that personality disorder plays in patients entering an acute care psychiatry setting, a sample of patients admitted with a clinically significant degree of depression, irrespective of the primary diagnosis, were screened for the presence of personality disorder(s). The frequency of the sample identified as personality disordered was determined and they were then compared to those subjects identified as not having personality disorder on a number of variables that are associated with depressive symptomatology.

B. Subject sample

1. Criteria for admission to study

The subjects were all the patients admitted to either of the two acute care psychiatric units in general hospitals in the city during a 12 month period who met the inclusion criteria. Inclusion criteria for the study were as follows:

a. Patient status All subjects were psychiatric in-patients at the time of inception into the study.

b. Age Subjects were between the ages of **18** and **45** at the time of testing. The rationale for this was patients with personality disorder are usually not diagnosed as having personality disorder independently from childhood disorders until the age of eighteen (Diagnostic and Statistical Manual of Mental Disorders, 1987). After age forty-five, the behaviours exhibited by personality disorders are often not as evident (Howard, 1986).

c. Sex Both males and females were included in the study. This was considered appropriate since personality disorder as a diagnosis is distributed within both sexes.

d. Depression criteria It proved impossible to assess all admissions for every month of the year because of difficulty in completing data collections. Therefore, after the first two months, a decision was made to include all admissions for two months and exclude those admitted in the third month whilst the data collection was completed. This

procedure was followed for the next nine months, so the sample was collected for eight months of admission over a twelve month period. All subjects had to be psychiatric in-patients at the time of referral for the study. Subjects were included in the study only if depression was noted to be a major symptom at the time of admission. The Beck Depression Inventory was used as a screen for depression. The subject had to meet at least at moderate level of depression in order to be included. The cutoff point of eighteen was used for this study. In cases where the patient did not evaluate himself/herself as being depressed and where obvious symptoms of depression existed, the Hamilton Rating Scale for Depression was used to assess the patient. This scale gives a more objective measurement and again a cutoff score of eighteen was used to indicate the presence of depression.

e. Location and time The setting was two acute care psychiatric units in general hospitals in the city. The units were of similar size (24 beds) and reported similar lengths of stay for their patients. The initial assessment was completed within four days following admission. After the initial assessment, the main data for the study was gathered when the depression had remitted.

2. Characteristics of the sample

a. Age The mean age of the population was 32.8 (7.8) years; the median was thirty-three and the mode was thirty-seven.

b. Sex The sample included both sexes, twenty-seven males and forty females.

c. Depression criteria Fifty-nine out of sixty-seven patients or 88% had a score of at least eighteen on the Beck Depression Inventory. Thirty-nine out of sixty-seven patients (58%) had a score of at least eighteen on the Hamilton Rating Scale for Depression. Thirty-three out of sixty-seven (49%) had a score of at least eighteen on both the Beck Depression Inventory and the Hamilton Rating Scale for Depression.

d. Data collected

i. location The numbers of males and females admitted to the units were similar. There was no significant difference in the ages of the populations in both psychiatric units.

ii. subjects missed Just one of the subjects eligible for inclusion in the study refused to participate. Three subjects were missed because of admissions shorter than four days to the acute care psychiatric setting.

C. Material

1. Clinical data

a. DSM-III-R

i. Axis I diagnosis Axis I diagnoses were recorded for each patient. This diagnosis was obtained from the discharge meetings that occurred at each hospital every week.

The diagnoses were reached by consensus within the group of psychiatrists that attended the meetings.

ii. **Axis II diagnosis** This diagnosis was also decided upon and recorded at the discharge meeting by group consensus.

iii. **Axis III diagnosis** The axis III diagnoses were obtained from the patient's chart.

iv. **Axis IV diagnosis** The axis IV diagnosis for each patient which assesses stress levels was recorded by the investigator using the DSM-III-R criteria.

v. **Axis V diagnosis** The axis V diagnosis which assesses the global assessment of functioning both current and past was also recorded for each patient by the investigator again using the DSM-III-R criteria.

b. **Length of stay** Length of stay was recorded for each subject in the study. This was obtained by subtracting the date of admission from the date of discharge which means that the actual day of discharge was not considered as part of the length of stay.

c. **Recheck diagnosis post-discharge** The psychiatrists were all contacted in writing after the patients' discharges and requested to inform the investigator of any amended diagnoses that occurred within a month after discharge (see Appendix A). There were five amended diagnoses and these were used as the final discharge diagnosis instead of those obtained from the discharge meetings.

2. Measures of depression

a. Beck Depression Inventory The Beck Depression Inventory is a 26-item self report inventory where the patient is required to circle the response that most applies to them at that point in time. It is a widely used scale for the assessment of depression and has established validity and reliability (Beck, 1961).

b. Hamilton Rating Scale for Depression The Hamilton Rating Scale for Depression is a 21-item scale that is an objective measurement of depression. It has been used for many years and has established reliability and validity (Hamilton, 1960). Factor analytic studies on a large sample of outpatients with unipolar depressive disorders suggests that it has a relatively stable factorial structure (O'Brien & Glaudin, 1988).

c. Diagnostic Melancholia Scale This is a 10-item scale that assesses two dimensions of depression. The first five items assess the endogenous symptoms and the last five items assess the reactive symptoms of depression (Bech, Allerup, Gram, Kragh-Soreneen, Rafaelsen, Reisley, Vestergard and the Danish University Antidepressant Group (DUAG), 1987).

d. Montgomery-Asberg Rating Scale for Depression The Montgomery-Asberg Depression Rating Scale is an objective rating scale developed to measure depression. It was used in the study to screen for presence of depression at the time of testing with the purpose being to test patients only after

the depressive symptomatology had subsided. As a depressive rating scale, the Montgomery-Asberg Scale was found to be particularly sensitive to treatment changes and overall changes in the patient's condition (Montgomery & Asberg, 1979). The scale consists of ten items and was easy to use as an assessment tool. The ten items chosen for the test are those that were found to show the largest changes with treatment and the highest correlation with overall change. The interrater reliability was found to be high. As well, it was found to be correlated with scores on the Hamilton Rating Scale. Its capacity to differentiate between responders and non-responders to antidepressant treatment was found to be better for the Montgomery-Asberg than for the Hamilton Rating Scale indicating greater sensitivity to change (Ibid.,1979). The Scale can be administered by nurses, psychologists or psychiatrists, therefore giving it multidisciplinary value.

3. Personality Disorder Examination

a. Outline of development The Personality Disorder Examination was developed in order to have a more efficient method of objectively assessing personality disorder using DSM-III-R criteria. It has been tested in various settings by the researchers who developed the examination and others and found to have good interrater reliability (Loranger, Susman, Oldham & Russakoff, 1985, Standage & Ladha, 1988).

b. Version used The initial version of the

Personality Disorder Examination was used in this study. The investigator was aware that a new version was being prepared and Loranger was contacted regarding this. However, the new version was not ready for testing until after this study had already begun. Therefore, a decision was made to continue with the original version.

c. Procedure for administration and scoring The Personality Disorder Examination consisted of 328 questions in which the subject answered from options: yes, sometimes, no. It is scored on eleven different categories of personality disorder according to the classifications in the axis II of the DSM-III-R. The investigator asked the questions to the patients exactly as they were printed in the questionnaire using prompt questions only where indicated. At the end of the interview, the investigator completed the questions in the last section of the examination where objective assessment of the patient during the interview was done. It was scored using the rating judgement for each personality disorder. This was a standard scoring sheet that was designed by those who developed the Personality Disorder Examination. It can also be scored using clinical judgement but this was not done for this study.

d. Investigator's training in administering PDE and reliability The Personality Disorder Examination has good interrater reliability and established validity (Loranger et al., 1985). It was used in this study to validate the

diagnosis of personality disorder. In order to administer this test, the investigator must have followed a protocol designed by the creators of the instrument which included observing five interviews being conducted while acting as a rater-observer as well as conducting five interviews while the supervisor acted as a rater-observer. In this way, interrater reliability must have been established before the investigator was permitted to conduct interviews independently. The investigator trained to administer this test as part of a graduate course. Satisfactory interrater reliability was achieved to consider the investigator able to administer the examination.

4. Eysenck Personality Inventory

a. Version The Eysenck Personality Inventory was used to assess the personality dimensions of extraversion/-introversion and neuroticism/stability in the patients assessed in the study. The Eysenck Personality Inventory is available in two versions, version A and version B. Version A was used in the study because the investigator had used this version in previous studies. Also, one of the hospitals was using version A of the Eysenck Personality Inventory as part of the entrance assessment data for each patient admitted.

b. Reliability and validity The Eysenck Personality Inventory is a widely used test that has established reliability in many different populations. It has been found

to have both test-retest and split-half reliability. It was found to have factorial, construct and concurrent validity in many studies done since its development (Eysenck & Eysenck, 1963).

5. Socialization Scale

a. Version The original version of the Socialization Scale of the California Psychological Inventory was used in this study. The California Psychological Inventory is also available in a revised version. The change noted in the Socialization Scale of the new version was the deletion of 6 items. When the original version of the Socialization Scale was compared with the new version, there was a correlation of 0.98 when comparing scores. Since the investigator was most familiar with the original version, having used it in several investigations, it was decided to use the original version in this investigation.

b. Administration of the scale The Socialization Scale of the California Psychological Inventory is a 54-item scale designed for measuring delinquent behaviour in adolescent boys (Gough & Peterson, 1952). It has also been used in prison populations. In addition, the scale has been used in populations with psychopathology, particularly with psychopaths and more recently with other personality disorders (Gough, 1948; Standage, Bilsbury, Jain & Smith, 1984; Standage, 1986; Standage, Smith & Norman,1988). The scale was self administered.

c. Validity and reliability The scale has cross-cultural validity and reliability (Rosen & Schalling, 1974). The purpose of using the scale in this study was to determine whether or not it continues to demonstrate value as a screen for personality disorders when a systematic method of screening for presence of personality disorders is in place namely the Personality Disorder Examination. This was indicated as a recommendation from previous studies (Standage, 1986; Standage, Smith & Norman, 1988).

6. Alexithymia Scale

a. Development of the scale The alexithymia scale used in the study was developed from the Beth-Israel Questionnaire. The Beth Israel Questionnaire was designed to give the clinician or researcher information about whether or not the patient has alexithymic characteristics. The form has been used with patients and professional staff as controls and the responses have been reliably rated blindly by staff members who share a common idea of alexithymia (Apfel & Sifneos,1979). The test in its original format takes almost an hour to complete.

b. Format of scale Since some of the items were repetitive, it was reduced in length for this study. The Alexithymia Scale used for this study was an analog version of Sifneos' Beth Israel Alexithymia Scale (Apfel & Sifneos, 1979). Faryna, Rodenhauser, & Forem (1986) also analogued an alexithymia scale, the Schalling-Sifneos Personality Scale.

An analog response versus a long answer thought provoking response that existed in the original test required less time to complete by the subjects. In analoging the scale, the respondent had an opportunity to choose any point on a 100 mm. line that best described how that person felt about a particular situation. In its original form, the Beth Israel Questionnaire was completed by the interviewer. Even though Apfel and Sifneos have reported good interrater reliability with this instrument, others have found its scoring to be highly dependent on the experience, bias and style of the interviewer (Taylor, 1984; Schneider, 1977). The instrument in its revised form was self-administered and completed by the subject with the instructions for completion being reviewed for the subject, by the researcher. In the revised format, the subjects were able to complete the alexithymia scale in approximately fifteen minutes (see Appendix B). The method of calculating presence of alexithymia in the study population was derived by using Faryna et al.'s (1986) method for calculating presence of alexithymia. They used a cut off point of 1098 with a possible total of 2200 for their scale which was a 22-item scale. The scale for this investigation was a sixty item scale. The corresponding cutoff for this scale was 2994 out of a possible total of 6000.

Three subscales were derived from the total scale. Alexithymia A, items 1 - 27, evoked responses to stressful situations. Alexithymia B, items 28 - 49, involved

experiences of emotions, and Alexithymia C, items 50 - 60, characterized types of emotions within the individual.

7. Life Events

a. Description of inventory A Life Events Inventory was developed, based on the work of Paykel and was used to record significant events that have caused stress for the individual in the last six months (Paykel, 1971). It contained items that would be expected to be stressful to a person experiencing them (eg. death of a close relative).

b. Procedure for scoring The data collected by this scale was tabulated and priorized by frequency of occurrence. Patients were encouraged to include items other than those included in the scale that they found particularly stressful.

8. Demographic data

A demographic data inventory was used to record variables such as sex, age, category of occupation, education levels, numbers of admissions, types of admissions (eg. in-patient, out-patient,etc). This data was correlated with the results of the various tests in the test battery.

9. Shipley Vocabulary and Abstraction Test

This is an intelligence test that is self-administered and was used to ensure that the subjects included in the sample were of normal intelligence. It contains 40-vocabulary words that the patient has to match to a synonym and 20-abstraction items for which the patient has to

complete the missing sections. It is a widely used test and has established reliability and validity (Shipley, 1940).

D. Procedure for conducting the study

1. Inception

Data collection began on July 1, 1988 and continued for a two month period. One month was then taken for entering data into a computer for preliminary analysis. This cycle was repeated with two months' data collection and one month data preparation until the complete sample had been collected.

2. Preliminary data collection

Access to subjects was through the two acute care psychiatric units chosen for the study. All admissions were recorded and the researcher screened for those patients considered suitable for the study using the protocol previously outlined.

Subjects were then be approached either by the researcher, or the attending psychiatrist to participate in the study. The subjects were given an explanation of the study, were ensured of confidentiality and the freedom to withdraw from the study at any time and then requested to sign a consent form (see Appendix C).

Initial data including the Beck Depression Inventory, the Eysenck Personality Inventory, and the Shipley Intelligence Test was collected by the resident, intern or clerk caring for the patient. Then, the patient's psychia-

trist completed a Hamilton Rating Scale for Depression and a Diagnostic Melancholia Scale. These tests were administered early after admission, when possible within the first 72 hours after admission and definitely within the first four days after admission. This data was valuable in determining the patient's level of depression as well as the type of depression. Further, the personality inventory provided a basic description of certain personality characteristics present in the subject.

3. Main Data Collection

The researcher saw the subject when the psychiatrist reported that the patient had improved. The investigator assessed for depression using the Montgomery-Asberg Rating Scale for Depression and a cut-off score of 9 was used to determine that the depression had improved.

The data collection process by the researcher took a maximum of two hours, with most patients being able to complete the battery of tests in one hour and thirty minutes. Initially, a brief history of the subject's condition was formulated. This enabled the investigator to collect information to complete demographic data, and the stress and depression scales. Subjects were then requested to complete the Socialization Scale and the Alexithymia Scale. The subjects were given the Personality Disorder Examination which completed the series of tests. If the patient tired easily, the interview was designed so that the subject can

complete the testing in two parts, doing the Personality Disorder Examination separately. Discharge diagnoses were recorded on all patients during the periods of data collection using the DSM-III-R criteria.

4. Data Analysis

Data analysis was done using the SPSSx Statistical Package. Methods of analyses included analysis of variance, factor analysis, and crosstabulation.

III. RESULTS

A. Introduction

The descriptive data for the study will be presented first in section 1 of the results. The results that derive from examining the hypotheses follow. The differences between subjects with personality disorder and normal subjects, all having depression will be presented in section 2. Section 3 will give the results for the subjects divided by type of depression and the personality disorder subjects only, grouped by the type of depression. Comparisons of Personality Disorder/Normal Personality groups within each type of depression will be shown in Section 4. Section 5 does not derive from the hypotheses but contain the results of post hoc examinations of the data suggested by the results. Section 5 gives the results obtained by comparing Borderline Personality Disorder subjects with the normal personality subjects, and subjects who have a personality disorder other than borderline.

B. Section 1

1. Descriptive Data

a. Sex and Age A total of sixty-seven subjects qualified for entry and participated in the study as described in the Methodology. Since two hospitals were used for obtaining the sample of patients for the study, crosstabs tables of hospital by sex, personality disorder, and age were

done. Crosstabs showed no significant differences on these variables between the subjects from hospital A and the subjects from hospital B. Therefore, the hospital of origin was ignored in all subsequent analyses.

The subjects included thirty-four from hospital A and thirty-three from hospital B. The sample consisted of twenty-seven males and forty females with a mean age of 32.8 (7.8 SD) years; range was from 18 to 45.

b. Previous Psychiatric Admissions For twenty-one patients, this was their first admission. The majority of them had previously been a psychiatric outpatient. Table 1 shows the frequency of previous psychiatric admissions.

Table 1

Previous Psychiatric Admission: All subjects

# admissions	subjects = n (%)
first admission	21 (31%)
one previous admission	16 (24%)
two previous admissions	15 (23%)
three previous admissions	7 (10%)
four previous admissions	1 (1.5%)
five previous admissions	4 (6%)
eight or more admissions	3 (4.5%)

c. Educational Attainments The highest school grades obtained by the patients are shown in Table 2. The proportion of grade 11 or higher was 41 (61%). Three subjects had graduate level education and six subjects had completed university degrees. Fifteen patients (22%) had only completed junior high school.

Table 2

Educational Experience and Attainments: All subjects

Level of education	subjects = n (%)
Graduate/professional training	3 (4.5%)
College/university graduates	6 (9%)
Partial college training	19 (28.4%)
Completed high school	13 (19.4%)
Partial high school	11 (16.4%)
Junior high school	15 (22.3%)

d. Occupational Attainments Table 3 shows the proportion of patients in categories of occupational status. One subject was a major professional; eight were in the business managerial/lesser professional category; nine were administrative personnel/ minor professionals; fifteen were clerical/technicians, owner of a small business; six were skilled manual employees; one was a semi-skilled employee;

nineteen were unskilled employees; eight had never worked in paid employment.

Table 3

Description of sample by occupational status: All subjects

Occupation category	subjects = n (%)
Major Professional	1 (1.5%)
Business managerial	8 (12%)
Administrative personnel	9 (13.4%)
Clerical/technician	15 (22.3%)
Skilled manual employee	6 (9%)
Semi-skilled employee	1 (1.5%)
Unskilled employee	19 (28.3%)
never worked in paid employment	8 (12%)

e. Work History The present employment status of the subjects is shown in Table 4. The cultural pattern of employment in Newfoundland makes it difficult to interpret the work status of the subjects, although the rate of unemployment tends to be around 21%. The pattern of unemployment in this sample compared to the general rate of unemployment is high. Those who never worked in paid employment accounted for 12% of the total sample and 22% of the unemployed group of patients.

Table 4

Classification of patients by employment status: All subjects

Employment status	subjects = n (%)
employed	30 (45%)
unemployed	37 (55%)
(never worked in paid employment)	8 (12%)

f. Work Performance Table 5 shows the level of work performance for each of the subjects. Twenty-nine of the subjects reported a marked decline in effectiveness in work performance; sixteen had some decline in effectiveness; seventeen felt that they had no change in work performance; two had increased effectiveness; one had variable degrees of effectiveness; two did not answer this question.

Table 5

Work Performance: All subjects

Effectiveness in work performance	subjects = n (%)
Marked decline in effectiveness	29 (43%)
Some decline in effectiveness	16 (24%)
No change in work performance	17 (25.5%)
Increased effectiveness	2 (3%)
Variable degrees of effectiveness	1 (1.5%)
Did not answer question	2 (3%)

Those who were not employed answered this question on the basis of performance at home or in work situations other than regular employment.

g. Social Functioning The level of social functioning is shown in Table 6. Eighty-two percent of the patients reported at least some decline in social functioning and nearly half of this group reported that they were markedly decreased in their ability to function in a social setting.

Table 6

Social Functioning: All subjects

Effectiveness in social functioning	subjects = n (%)
Marked decline in social functioning	27 (40%)
Some decline in effectiveness	28 (42%)
Adequate social functioning	11 (16.5%)
Fluctuating levels of social functioning	1 (1.5%)

h. Marital Status The marital status of the subjects is shown in Table 6. Considering the mean age of the group is 32.8 years, the proportion of single people (31%) seems high. As well, the frequency of separation and divorce also appears to be high. Marriage is reported in three categories; married for first time, married with previous marriages, and common-law marriage. The frequencies in these three categories form 41% of the total sample.

Table 7

Present Marital Status: All subjects

Marital Status	subjects = n (%)
Single	21 (31%)
Married for first time	22 (33%)
Married with previous marriage(s)	2 (3%)
Separated/divorced	19 (28%)
Common-law	3 (5%)

i. External Stress Table 8 shows the numbers of subjects reporting external stress as being a contributing factor in leading to their hospitalization. There were no identifiable stress factors for 9% of the subjects. Twenty-two percent of the patients had probable stress and sixty-nine percent of the subjects had definite stress prior to hospitalization.

Table 8

All Subjects categorized by external stress

Stress Status	subjects = n (%)
no stress	6 (9%)
probable stress	15 (22%)
definite stress	46 (69%)

2. Psychometric Assessment Instruments

A summary of the mean scores on the psychometric variables is shown in Table 9.

Table 9

Means and Standard Deviations on Assessment Instruments: All Subjects

Psychometric Variables	means	SD
Beck Depression Inventory	27.97	10.11
Shipley Intelligence Test	94.74	34.29
Diagnostic Melancholia Scale		
- endogenous	4.30	2.59
- reactive	5.49	2.07
DSM-111-R Stress Score	3.20	0.61
DSM-111-R Global Assessment of Functioning		
- current	40.37	10.30
- past	70.25	9.13
Socialization Scale	26.93	6.33
Eysenck Personality Inventory		
- extraversion	9.92	4.12
- neuroticism	16.17	5.37
- lie	3.15	1.89

The mean score for the Beck Depression Inventory was 28.1, with a median of 27.0 and a mode of 23.0 indicating at least a moderate level of depression in all subjects. The mean IQ was 94.7 (34.29 SD). The distribution of IQ scores showed that all subjects were within the normal range of intelligence.

Mean scores for the Diagnostic Melancholia Scale-Endogenous was 4.3 (2.59 SD) with a range from 0 to 10; -Reactive was 5.5 (2.07 SD) with a range from 0 to 9. The

mean DSM-111-R Stress Score indicates that at least a moderate level of stress was experienced by the majority of the subjects. Examples of stressors included in the moderate category are marital separation, loss of job, miscarriage, marital discord and serious financial problems (Diagnostic and Statistical Manual of Mental Disorders, ed 3,revised, 1987).

The mean for the current Global Assessment of Functioning indicates an average level of impairment in reality testing or communication or major impairment in several areas such as work or school, family relations, judgement, thinking, or mood (Ibid., 1987). The range of current functioning, from 20 to 70 shows that some subjects were much more debilitated in their functioning than others. A score of 70 on the Global Assessment of Functioning - Past year demonstrates that a patient has some mild symptoms of depression or some difficulties in social, occupational or school functioning, but for the most part is functioning at a reasonable level (Ibid. 1987). A range from 50 to 90 again indicates that some patients were having serious problems while others have no or minimal symptoms in their past functioning.

The mean score on the Socialization Scale was low. This indicates that the sample as a whole was deficient in role-taking ability, the ability to interpret another person's perception of them. A score of 26 is typical of

prison inmates (Gough, 1975).

The mean score for the extraversion dimension of the Eysenck Personality Inventory is within normal limits. However, the neuroticism dimension is high indicating that the subjects reported many minor complaints of illness. The lie dimension of this scale is within normal limits indicating that subjects were consistent in their responses.

a. Life Events A record of life events that occurred in the subjects' lives during the previous twelve months, as reported by the Life Events Inventory was completed for each subject. Table 10 lists the frequency for the sample of those life events that occurred more than once.

Table 10

Tabulation of Respondents > 1 to Life Events: All subjects

Life Event	Subject (n = 67)
1. Major financial problems	29 (43%)
2. Unemployment	22 (33%)
3. Increased arguments with spouse	22 (33%)
4. Death of a close family member	17 (25%)
5. Family member has serious illness	14 (21%)
6. Separation	13 (19%)
7. Changes at work	12 (18%)
8. Serious physical illness	11 (16%)
9. Move	11 (16%)
10. Difficulties with children	10 (15%)
11. Stress at school	8 (12%)
12. Arguments with family members	7 (10%)
13. Physical Abuse	5 (8%)
14. Criminal charges	5 (8%)
15. Family member has legal problems	5 (8%)
16. Divorce	4 (6%)
17. Few friends	4 (6%)
18. Sexual abuse	4 (6%)
19. Sexuality a concern	3 (5%)
20. Leave school	3 (5%)
21. Family member has marital problems	3 (5%)
22. Family member leaves home	3 (5%)
23. Pregnancy	3 (5%)
24. New job	3 (5%)
25. Fired	3 (5%)
26. Court Appearance	3 (5%)
27. Best friend moved	2 (3%)
28. Business failure	2 (3%)
29. Engagement	2 (3%)
30. Weight gain	2 (3%)

As shown in the table, at least fifteen percent of the sample reported the occurrence of the first ten life events. Most of these life events include relationship or work related incidents. Close to half of the population (43%) reported

financial difficulties while a third of the population reported unemployment as being a stressful event. One third of the subjects also reported increased arguments with spouse as being a stressful life event.

b. Alexithymia Scale The reliability of the scale was estimated using Cronbach's alpha as a measure of internal consistency reliability. The alpha coefficient was found to be 0.8713 (n = 67) indicating good reliability for the scale. This was higher than that reported by Faryna, Rodenhauser & Forem (1986) whose alpha coefficient for reliability was 0.426.

It was initially thought that factor analysis would be the appropriate way of reducing the data from 64 questions with analogue answers to a simpler and more meaningful form. Principal components analysis using varimax rotation was the type of factor analysis used. However, this produced a large number of factors each accounting for a small proportion of the variance. A reduction in the factors was indicated by the program, but a division of the data into A, B, C scales and separately factoring them, produced no improvement nor did dropping questions that were judged as redundant. In conclusion, the findings from factor analysis indicated that the items comprising the scale were largely independent of one another. Therefore, all the items in the scale were summed to give the total score.

Subsequent handling of the Alexithymia scale was done by obtaining overall means as well as means for the three divided categories. The categories were divided as follows: Alexithymia A which consisted of questions 1 to 27, Alexithymia B which contained questions 28 to 49, and Alexithymia C which consisted of questions 50 to 60.

First of all, the means were checked to determine which of the patients could be considered as alexithymic. Using the cutoff score of 2994, outlined in the methodology, only two of the subjects can be considered alexithymic. The rest of the subjects fall above the cutoff point for alexithymia. Looking at the upper extreme, only one patient had a score of greater than 5000 which could be considered hyperlexithymic. The results in this study can be compared to Faryna et al.'s study which showed that two out of 244 individuals from several different sources of a non-patient population were alexithymic (Farnya,et al., 1986). They also suggested that an analogue scale does not screen for alexithymia as well as a scale such as the Schalling-Sifneos Personality Scale.

The mean score for the subjects on the Alexithymia Scale as a total was 4051.3 (546.01 SD). The mean score for Alexithymia A was 1860.6 (331.92 SD) with a maximum possible score of 2700. The mean score for Alexithymia B was 1535.1 (246.67 SD) with a maximum possible score of 2200. The mean score for Alexithymia C was 655.6 (90.16 SD) maximum possible

score of 1100.

The findings suggest that the alexithymia scores of the subjects in this sample have a limited variance. This could explain why factor analysis of this scale was unsuccessful.

C. Section 2

1. Screen for Personality Disorder

Hypothesis 1. Within the Sample of patients admitted to general hospital psychiatric units who have a depressed mood, irrespective of the primary diagnosis, a proportion will be found to have personality disorder.

The sample was analyzed for the presence of personality disorder irrespective of the type of depression. Forty-four out of the sixty-seven patients met the criteria for at least one personality disorder using the Personality Disorder Examination (PDE) as a measuring instrument. This number appears to be high. There was a lower number of subjects (n = 14) given a medical diagnosis of personality disorder on discharge from hospital. Thus, the hypothesis was supported in that 66% of the sample had personality disorder identified by the PDE, and 21% personality disorder as diagnosed by a psychiatrist.

Crosstabs was done to discover the number of personality disorders, identified by objective measurement (PDE) that were also given discharge diagnoses of personality

disorder. The distribution of patients in each category is shown in Table 11.

Table 11

Comparison of Personality Disorder by PDE with discharge diagnosis

		Clinical discharge diagnosis Personality disorder	
Personality disorder		**Absent**	**Present**
PDE	Absent	19	4
	Present	34	10

kappa = .03

The table shows that 10 out of the 44 PDE cases or 23% actually obtained a discharge diagnosis of Personality Disorder. In addition, there were four cases that were diagnosed clinically as personality disorder but did not meet the PDE criteria for personality disorder. A Cohen's kappa value of 0.03 indicates a low level of agreement between clinical diagnosis and objective measurement diagnosis. This could mean that psychiatrists under diagnose personality disorder or the PDE is too sensitive a measure for the identification of personality disorder.

A further examination was conducted to determine whether those members of the sample with personality disorder

are different from those without personality disorders in terms of their scores on the variables in the study. The sample was divided by presence /absence of personality disorder as measured by the PDE.

a. Sex Difference In generally describing the Personality Disorder Group, there was no significant difference in the proportion of males and females having personality disorder. Nineteen males and twenty-five females met the PDE criteria for personality disorder.

b. Marital Status No significant differences using Pearson chi square were found between the normal personality and the personality disorder groups with regard to marital status. The distribution by marital status is shown in Table 12.

Table 12

Marital Status X Personality Disorder/Normal Personality

Status	P.D.	Normal
Single	17(39%)	4(17%)
Married (first time)	12(27%)	10(44%)
Married (previous marriages)	0	2(9%)
Divorced/separated	12(27%)	7(30%)
Common-law	3(7%)	0

Pearson chi square = 8.83, d.f. = 4, $p < .06$

c. Types and frequency of Personality Disorder Of the DSM-111-R Personality Disorders, the most frequently occurring personality disorder in this study was Borderline Personality Disorder. Sixty-eight percent (n = 30) of the identified personality disorders met the PDE criteria for Borderline Personality Disorder. Table 13 shows the distribution of personality disorders for the subjects in the study using PDE criteria. The number of personality disorder subjects meeting the criteria for each specific disorder is noted. The percentages are based on the 44 identified personality disorders.

In looking at the three clusters of personality disorder in the DSM-111-R, many more subjects met the criteria for Cluster B diagnoses. Slightly over 10% of the total sample had Cluster A diagnoses while 55% met the criteria for Cluster B diagnoses. Forty-two percent of the subjects met the criteria for Cluster C diagnoses. It is difficult to discuss the individual personality disorders since they, for the most part do not represent discrete entities. The majority of the subjects in the study fulfilled the criteria for more than one personality disorder. In addition, the multiple diagnoses were not restricted to a particular cluster.

Table 13

Frequency of types of Personality Disorder

Personality disorder	Frequency* (n = 44)
Cluster A	
Schizoid	1 (2%)
Schizotypal	4 (9%)
Paranoid	3 (7%)
Cluster B	
Borderline	30 (68%)
Histrionic	11 (16.5%)
Narcissistic	5 (11.4%)
Antisocial	9 (20.5%)
Cluster C	
Dependent	15 (34%)
Avoidant	18 (41%)
Obsessive-compulsive	6 (13.6%)
Passive-aggressive	3 (4.5%)

* Note the total adds to more than forty-four since a number of individuals met the criteria for more than one personality disorder.

The frequency of subjects meeting one or more personality disorders is shown in Table 14. As can be seen, 68% (n = 30) of those subjects identified as having personality disorder

met the criteria for two or more personality disorders. Twenty-two per cent (n = 10) met the criteria for three or more personality disorders. The occurrence of many personality disorders was further complicated by its spread over all three clusters. Approximately one-fifth of the sample or 34% (n = 15) of those identified as having personality disorder had a diagnosis in each cluster of the DSM-111-R personality disorders as measured by the PDE.

Table 14

Frequency of Personality Disorders for Subjects

Personality Disorders (n)	Frequency (%) (n = 44)
1	14 (32%)
2	15 (34%)
3	9 (20%)
4	1 (2%)
5	2 (4.5%)
6	2 (4.5%)
7	0
8	1 (2%)

In addition to recording the frequencies of the personality disorders in general, the frequencies were also recorded for diagnosis in each cluster and across clusters. The results are shown in Table 15.

Table 15

Distribution of Personality Disorders in/across Clusters

Cluster Arrangement	Frequency	(%) (n=44)
Cluster A	1	(2%)
Cluster B	13	(29.6%)
Cluster C	7	(16%)
Cluster A & B	2	(4.6%)
Cluster A & C	0	(0%)
Cluster B & C	16	(36.4%)
Cluster A,B,C	5	(11.4%)

The results show that the highest frequency was in Cluster B and C, Cluster B only was second. There was no overlap of diagnoses for Cluster A and C.

2. Differences on Variables for Personality Disorder Versus Normal Personality

This part of the results examines the between group differences for those subjects with personality disorder versus without personality disorder. The differences between the personality disorders and the normal personality subjects on several variables as stated in Hypothesis 2 will be noted. The results are organised under each sub-hypothesis that deals with the specific variable.

Hypothesis 2 a. **Age. Those patients with personality disorder will be more likely to require admission to hospital at an earlier age than those patients with normal personality. Specifically, the Personality Disorder Group have a lower mean age than the Normal Personality Group.**

The mean age of the personality disorder group was significantly lower than that of the normal personality group. The mean ages and their standard deviations together with the result of the analysis of variance are given in Table 16.

Table 16

Age: Means and Standard Deviations X Personality Disorder/-Normal Personality

Group of Patients	n	Mean	SD
Normal Personality	23	36.8	6.7
Personality Disorder	44	30.7	7.6

$F(1,65) = 10.72,\ p < .001$

The results support the hypothesis that the personality disorder subjects are a younger group than those subjects without personality disorder.

Hypothesis 2 b. **Beck Depression Inventory. Those patients with personality disorder will describe themselves as being more depressed than those without personality disorder. Specifically, the Personality Disorder Group will have a significantly higher mean score on a self-rating measure of depression, the Beck Depression Inventory than the Normal Personality Group.**

The mean score for the normal personality group for the Beck Depression Inventory was 25.4 (9.06 SD); the mean score for the personality disorder group was 29.3 (10.46 SD). The difference between the means was not statistically significant ($F(1,65) = 2.34$, $p < 0.13$) even though a trend existed in the predicted direction.

Hypothesis 2 c. **Hamilton Rating Scale for Depression. Those patients with personality disorder will be assessed objectively as not being as depressed as those without personality disorder. Specifically, the Personality Disorder Group will have a significantly lower mean score on an objective rating scale of depression, the Hamilton Rating**

Scale for Depression than the Normal Personality Group.

The mean scores for both groups on the Hamilton Scale for Depression did not differ significantly. The mean score for the normal personality group was 18.73 (9.86 SD) and was 19.89 (7.6 SD) for the personality disorder group ($F(1,65) = 2.81$, $p < 0.60$). Therefore, the hypothesis was not supported by these findings.

Hypothesis 2 d. **Eysenck Personality Inventory. Those patients with personality disorder will be more extraverted and neurotic than those without personality disorder. Specifically, the mean Extraversion and Neuroticism scores of the Personality Disorder Group will be significantly higher than those of the Normal Personality Group.**

Eysenck Personality Inventory (EPI)

i. **Extraversion** No significant differences in the means were found between the groups on the Extraversion dimension of the EPI. The means and standard deviations for each group together with the tests of significance are given in Table 17. Both groups had mean scores within normal limits. The hypothesis was not supported. This may be due to the fact that many of the identified personality disorders

had Cluster A and C diagnoses which are characterized by less extraverted behaviour than would be seen in Cluster B.

ii. **Neuroticism** A highly significant difference in the mean scores at the .001 level was found between the groups on the Neuroticism dimension of the EPI with the personality disordered group scoring higher. A high mean score on the neuroticism dimension suggests that the personality disordered group reported many more symptoms or ailments than the group without personality disorder. The findings support this hypothesis.

iii. **Lie** A significant difference in the mean scores at the 0.015 level was found between the two groups for the Lie scale of the EPI. The personality disordered group scored lower on this scale which means that they were more consistent in their answers than the normal personality group. The means, standard deviations, and tests of significance are given in Table 17. Even though this finding was not postulated, it could have been predicted, since a similar result occurred in a previous study completed by the investigator, and seems to indicate that those with personality disorder are not as concerned with "faking good" as those with normal personalities (Smith,1982).

It should be noted that one subject did not complete the Eysenck Personality Inventory and the results are based on a total of 66 subjects.

Table 17

Eysenck Personality Inventory: Means and Standard Deviations X Difference Between Personality Disorder/Normal Personality Subjects

Subjects	Mean	SD	Significance
Extraversion			
Normal Personality	10.3	4.3	F =.30
Personality Disorder	9.7	4.0	d.f.= 1,64
			NS
Neuroticism			
Normal Personality	13.4	5.3	F = 10.69
Personality Disorder	17.7	4.8	d.f.= 1,64
			p < .001
Lie			
Normal Personality	3.9	1.8	F = 6.20
Personality Disorder	2.7	1.9	d.f.= 1,64
			p < .016

Hypothesis 2 e. **Length of Stay. Patients with personality disorder will require a longer period of hospital treatment than those with normal personality. Specifically, the mean length of hospital stay will be significantly longer for the Personality Disorder Group than the Normal Personality Group.**

No significant difference was found in the lengths of stay in hospital for the Personality Disorder Group when compared to the Normal Personality Group. The mean length of stay for the Personality Disorder Group was 26.6 (20.11 SD). The mean length of stay for the Normal Personality Group was 21.1 (15.99 SD). It was expected that the Personality Disorder Group would have a longer stay in hospital and the hypothesis was not supported even though a trend existed in that direction.

Hypothesis 2 f. **Socialization Scale. Those patients having personality disorder will have deficient role-taking ability; patients without personality disorder will have normal role-taking ability. Specifically, the mean score of the Personality Disorder Group will be lower on the**

Socialization Scale than that of the Normal Personality Group.

Highly significant differences between the means of the two groups on the Socialization Scale were found, with the personality disordered group scoring lower than the group without personality disorder ($p < 0.000$). The means, standard deviations, and the results of the tests of significance are given in Table 18. The findings suggest that the personality disordered group had more difficulty in role-taking than the group without personality disorder. They reported a poorer quality of life and quality of home life as well as more problematic behaviour.

Table 18

Socialization Scores; Means and Standard Deviations X Personality Disorder/Normal Personality

		Socialization Scores	
Subjects	**n**	**Mean**	**SD**
Normal Personality	23	30.6	6.19
Personality Disorders	44	25.0	5.55

$F(1,65) = 14.29$, $p < 0.000$

These results strongly support the hypothesis that personality disorder subjects are more deficient in role-taking ability than those with normal personality.

Hypothesis 2 g. **Stress Score. Those patients with personality disorder will be assessed on an objective measure as having a lower level of stress than those without personality disorder. Specifically, the stress level of the Personality Disorder Group as measured by the DSM-III-R, Axis V will be significantly lower from that of the Normal Personality Group.**

There was no significant difference between the Personality Disorder Group and the Normal Personality Disorder Group on their mean stress levels. Both groups had a moderate level of stress. The mean level of stress for the Personality Disorder Group was 3.3 (0.54 SD) and for the Normal Personality Group, the mean level of stress was 3.2 (0.74 SD). These findings did not support the hypothesis.

Hypothesis 2 h. **Life Events. Those patients with personality disorder will report a higher frequency of "Life Events" causing stress than those without personality disorder. Specifically, the Personality Disorder**

Group will have a significantly higher number of reported "Life Events" than the Normal Personality Group.

Table 1, Appendix D showed no significant differences between the personality disorders and the normal personality in their reporting of life events. They are grouped using the same format that Paykel (1969) employed.

The frequencies of each life event in each category - personality disorder (P.D.) and normal personality groups were compared using chi square, for a 2 X 2 table with 1 degree of freedom and Yate's correction. Where the expected value in a cell was less than 5, Fisher's exact test was used. The same tests of statistical significance were used for similar tables that later appear in the results section.

The entrance and exit events for personality disorders and normal personality subjects are shown in Appendix D, Table 2. Many more exit events than entrance events were recorded for both groups. There was no significant difference between the group with and that without personality disorder, in regard to the number of exit and entrance events. (Statistical note: In comparing the number of life events in the two groups, personality disorder and normal personality, the chi square one sample test was used (Siegel, 1956). The null hypothesis is that the expected proportion of events falling within each of the two

groups is proportionate to the number of subjects in each of the two groups. In this and all subsequent tests of similar data, the value of chi square is derived from a 2 X 1 table with 1 degree of freedom.

Table 19 shows a record of desirable and undesirable life events. Again, for both personality disorder and normal personality, many more undesirable events were noted. The personality disorder group reported significantly more undesirable events than the normal personality group.

Table 19

Desirable and Undesirable Events: Frequency. Difference between Personality Disorder/Normal Personality Subjects

Category	(n = 44) P.D.	(n = 23) Normal	chi sq Sig.	Events
Desirable	2	0	ns	Marriage Engagement Birth
Undesirable	87	27	5.27 d.f. = 1 p < .025	Death of family member Separation Demotion Serious illness of family member Jail Major financial problems Unemploy-ment Court appearance Divorce Business failure Fired Stillbirth Miscarriage Best friend moves Broken engagement

Table 20 shows events grouped by area of activity. The personality disorder group reported significantly higher numbers of life events in the areas of employment and health.

There were no significant differences between the personality disorder group and the normal personality group in the categories of family, marital, and legal.

Table 20

Events Grouped by Area of Activity Frequency, Difference between Personality Disorder/Normal Personality Subjects

Category	(n = 44) P.D.	(n = 23) Normal	Chi sq Sig	Events
Employment	40	10	3.94 d.f. = 1 p < .05	Begin a new job Changes at work Demotion Fired Unemployment Promotion Retirement Business failure Stress at school
Health	27	4	5.40 d.f. = 1 p < .05	Serious personal illness Serious illness family member Pregnancy Childbirth Stillbirth Abortion Miscarriage

(table continues)

Category	(n = 44) P.D.	(n = 23) Normal	Chi sq Sig	Events
Family	25	9	NS	Child engaged Child married Family member leaves home New person in home Difficulties with children Physical Abuse Sexual Abuse Arguments with family members
Marital	21	8	NS	Marriage Separation Divorce Increased arguments with spouse
Legal	6	2	NS	Court appearance Jail Charges

The findings partially support the hypothesis. Even though the personality disorder subjects did not report significantly more life events, in general, than the normal personality subjects, when categorizing the types of life events that were reported, the personality disorder subjects reported more undesirable life events, and more life events related to employment and health.

Hypothesis 2 i. **Alexithymia Scale. Those patients with personality disorder will demonstrate more extreme emotional expressions of behaviours as measured by the Alexithymia Scale than those with normal personality. Specifically, the Personality Disorder Group will have a significantly higher or lower mean score on the Alexithymia Scale than the Normal Personality Group.**

There was no significant difference between the personality and normal personality groups in their mean alexithymia scores. The data are given in Table 21. The alexithymia scores were higher for the personality disorder group compared with the normal personality group. The same finding applied to the sub-scales A, B, and C, the greatest difference being on A scale, but this did not reach statistical significance ($F(1,65) = 3.69$, $p < .059$). The findings are therefore all in the direction predicted by the hypothesis, but not statistically significant.

Table 21

Alexithymia Scores: Means and Standard Deviations for Personality Disorder/Normal Personality

	P.D.		Normal	
	Mean	SD	Mean	SD
Alexithymia Scale	4140.5	(488.95)	3880.5	(73.71)
Alexithymia A	1915.8	(311.57)	1755.0	(350.74)
Alexithymia B	1565.3	(220.71)	1477.3	(286.36)
Alexithymia C	659.46	(94.48)	648.2	(82.79)

Hypothesis 2 j. Diagnostic Melancholia Scale. Those patients with personality disorder will be more likely to have depressions that are reactive to psychological and social events, whilst those without personality disorder will be more likely to become depressed because of endogenous factors. Specifically, the Personality Disorder Group will have a significantly higher "reactive depression" mean score and a significantly lower "endogenous depression" mean score on the Diagnostic Melancholia Scale than the Normal Personality Group.

Diagnostic Melancholia Scale

Endogenous - Oneway analysis of variance showed no significant difference between the Personality Disorder Group and the Normal Personality Group on the Endogenous dimension of the Diagnostic Melancholia Scale. The mean score for the Personality Disorder Group was 4.3 (2.38 SD) and the mean score for the Normal Personality Group was 4.9 (3.06 SD).

Reactive - Oneway analysis of variance showed no significant difference between the Personality Disorder Group and the Normal Personality Group on the Reactive dimension of the Diagnostic Melancholia Scale. The mean score for the Personality Disorder Group was 5.7 (2.09 SD) and the mean score for the Normal Personality Group was 5.0 (2.01 SD).

The scores on the two dimensions indicate that both groups had more characteristics of the reactive symptoms of depression than the endogenous symptoms. The findings did not support the hypothesis.

Hypothesis 2 k. **Number of Admissions. Those patients with personality disorder will have a greater number of past admissions than those without personality disorder. Specifically, the mean number of admissions for the Personality Disorder Group will be greater than that of the Normal Personality Group.**

Oneway analysis of variance showed no significant difference between the Personality Disorder Group and the Normal Personality Group in the number of previous hospitalizations to hospital. The mean number of previous hospitalizations was 1.8 (2.15 SD) for the Personality Disorder Group and 1.5 (1.50 SD) for the Normal Personality Group. It was predicted that the Personality Disorder Group would have had more frequent admissions to hospital than the Normal Personality Group and thus the hypothesis was not supported.

Hypothesis 2 1. **Global Assessment of Functioning. Those patients with personality disorder will report more difficulty in coping with life situations than those without personality disorder. Specifically, the Personality Disorder Group will have significantly lower mean scores on the Global Assessment of Functioning Scale of the DSM-III-R than the Normal Personality Group.**

No significant difference was found in the means for the current level of functioning with the normal personality group scoring 41.0 (11.86 SD) and the personality disorder group scoring 40.1 (9.53 SD). The mean score suggests that the members of both groups must overall be suffering major impairment in several possible areas, such as

work or school,family, relations, judgement, thinking or mood or some impairment in reality testing or communication (Diagnostic and Statistical Manual of Mental Disorders, 1987).

The mean score for past level of functioning was lower for the personality disorder group at 68.8 (7.62 SD) but not significantly different from the normal personality group at 73.0 (11.14 SD), ($F(1,65) = 3.38$, $p < .07$). A person functioning at the 68 level on the continuum would have some mild symptoms but generally would function reasonably well. A person functioning at the 73 level would have no more than slight impairment and would mostly react to psychosocial stressors. These findings did not support the hypothesis, but were in the predicted direction.

Hypothesis 2 m. **Social Functioning. Those patients with personality disorder will function less well in social situations than those with normal personalities. Specifically, the Personality Disorder Group will have a significantly lower mean score on a social functioning measure than the Normal Personality Group as self-reported.**

Oneway analysis of variance showed no significant difference between the Personality Disorder Group and the

Normal Personality Group. The mean social functioning score was 1.8 (.89 SD) for the Personality Disorder Group and 1.8 (.83 SD) for the Normal Personality Group. This indicated that both groups viewed themselves as having difficulty in functioning in social situations. The findings did not support the hypothesis.

Hypothesis 2 n. **Work Performance. Those patients with personality disorder will function less well in work situations than those with normal personalities. Specifically, the Personality Disorder Group will have significantly a lower mean score on work performance than the Normal Personality Group as self-reported by the patient.**

Oneway analysis of variance showed no significant difference between the Personality Disorder Group and the Normal Personality Group. The mean score for the Personality Disorder Group was 2.0 (1.12 SD) and the mean score for the Normal Personality Disorder Group was 1.7 (.82 SD). This indicated that both groups viewed themselves as having difficulty in functioning in work situations. Even though both groups reported difficulty in performance in work situations, differences were noted in employment status. A significant difference using chi square was found for employment status with the personality disordered group

having a much higher rate of unemployment. Table 22 shows the employment status of the two groups.

Table 22

Employment Status of Personality Disorder/Normal Personality Subjects

Group of Subjects	Unemployed	Employed
Normal Personality	8 (35%)	15 (65%)
Personality Disorder	29 (66%)	15 (34%)

Pearson chi sq = 5.91, d.f. = 1, $p < .015$

3. Summary

The previous analyses show that for this sample, patients with personality disorder do differ in several respects from those without personality disorder. First of all, the personality disorder subjects are younger, have lower Socialization Scale scores, higher Eysenck Personality Inventory - Neuroticism scores and lower Eysenck Personality Inventory - Lie scores. This means that the personality disorder group of patients have a poor level of role-taking ability, are neurotic individuals, but are more consistent in their reporting as evidenced by the EPI lie scale than their counterparts without personality disorder. There were more patients with personality disorder who were unemployed than those without personality disorder.

Reporting of life events showed that personality disorder patients had more undesirable life events, more concerns about employment, and more concerns about health than the normal personality patients. Whilst the trend was for the personality disorder group to score slightly higher on the alexithymia scales, it did not significantly differ from the group without personality disorder. Neither group was considered to be alexithymic.

D. Section 3

1. Division of Subjects by Type of Depression - Categorization by Diagnosis

The subjects were divided into groups according to the type of depression. The distribution is shown in Table 23. They fell into three categories as follows:

1. those subjects with an Axis I diagnosis of Major Depressive episode, DSM-III-R. (The two subjects with a diagnosis of Dysthymia also had a concomitant diagnosis of Major Depressive episode and so were included in this group).
2. those subjects with an Axis I diagnosis of Adjustment Disorder Depression.
3. those subjects whose depression was secondary to some other psychiatric condition, but whose depression was a major symptom, identified as such by the admitting psychiatrist and confirmed on admission to the study, as described in the Method. The primary diagnoses in this group were drug or

alcohol dependency, attention deficit disorder, anxiety disorder, organic depression. However, they were also assessed to be depressed at the time of admission. Even though the primary diagnosis was other than depression, the underlying depression also had to be considered in the total treatment of the patient.

An Axis II discharge diagnosis of personality disorder was also noted. Table 24 shows the distribution of personality disorder by discharge diagnosis in each of the depressed groups.

The largest group was the Major Depressive Disorder group which contained 42% of the subjects, with the Adjustment Disorder Depression and the Secondary Depression containing 30% and 28% respectively.

Table 23

Categorization of Subjects by Type of Depression

Type of depression	**subjects n**	**(%)**
Major depressive episode	28	42%
Adjustment disorder depression	20	30%
Secondary depression	19	28%

Table 24

Discharge Diagnosis of Personality Disorder X Type of Depression

Type of depression	n	Discharge diagnosis of personality disorder
Major depressive episode	28	6 (21%)
Adjustment disorder depression	20	3 (15%)
Secondary depression	19	5 (26%)

Twenty percent of the subjects had the discharge diagnosis of personality disorder. Their distribution between the three depressed groups is given in Table 24. No group had a significantly greater proportion of personality disorder subjects than another.

2. Distribution of Personality Disorders in the Depressed Groups using Personality Disorder Examination Criteria

Hypothesis 3. The different diagnostic categories of depression will show the following:

a. The Major Depressive Disorder Group will have fewer members with personality disorder than Adjustment Disorder Depression Group, and than Secondary Depression Group.

In the analysis of the crosstabs tables, Pearson's chi square

was used to determine if the proportion of subjects with personality disorder differed significantly between the depressed groups. The results for each group are shown in Table 25.

Table 25

Frequency of Personality Disorder by Type of Depression

Type of Depression	Personality Disorder present	absent
Major Depressive Episode	15	13
Adjustment Disorder Depression	13	7
Secondary Depression	16	3

chi square = 4.72, d.f. = 2, $p < .09$

Within the three depressed groups, there was no significant difference between the Major Depressive Disorder group and the Adjustment Disorder Depression group or the Secondary Depression group in the proportions of personality disorder subjects using PDE criteria. It was expected that the Adjustment Disorder Depression and Secondary Depression groups would have a higher proportion of personality disorder subjects than the Major Depressive Disorder group. While this was so, it was not statistically significant. Therefore the hypothesis was not supported.

3. Comparisons Between Depressed Groups for Personality Disorder

Hypothesis 3 b. **Personality disorders of the Cluster B, DSM-III-R type will be found relatively less frequently in the Major Depressive Disorder Group than in the Adjustment Disorder Depression Group and the Secondary Depression Group.**

In observing the Cluster types of Personality Disorder within the depressed groups, the proportion of Cluster B personality disorders in the Major Depressive Disorder group was significantly lower than that in the secondary depression group. Eleven of the 28 Major Depressive Disorder subjects, 15 of the 19 Secondary Depression subjects and 11 of the 20 Adjustment Disorder Depression subjects had a Cluster B, personality disorder diagnosis. This difference in frequencies was significant at the 0.05 level, [Pearson chi square = 7.29, d.f. = 2]. There was no difference between the Major Depressive Disorder group and the Adjustment Disorder Depression as was anticipated even though a non-significant trend existed. There were no significant differences among the groups for Cluster A or Cluster C categories of personality disorders.

Hypothesis 3 c. **There will be an association between specific types of personality disorder and specific diagnostic categories of depression.**

When the Personality Disorder Diagnoses were further broken down from Clusters into individual diagnoses, the only significant finding was related to the diagnosis of Antisocial Personality Disorder. More subjects received a diagnosis of Antisocial Personality Disorder in the secondary depression group than in the Major Depressive Disorder group and the Adjustment Disorder Depression group. Three out of the 28 subjects in the Major Depressive Disorder group had a PDE diagnosis of Antisocial Personality Disorder. Six out of 19 had a PDE diagnosis of Antisocial Personality Disorder in the Secondary Depression group. There were no subjects with the diagnosis of Antisocial Personality Disorder in the Adjustment Disorder Depression group that contained 20 subjects. This was significant at the 0.013 level, Pearson chi square = 8.66, d.f. = 2. No significant differences were found between the diagnostic categories of depression for the proportions of subjects with other specific types of personality disorders. This is probably due to the Borderline Personality Disorder being found in the majority of the subjects with personality disorders and these subjects with this personality disorder being almost equally distributed across the depression diagnostic categories. The

hypothesis was supported only for one personality disorder type in that there was a disproportionately greater number of Antisocial Personality Disorder in the Secondary Depression group.

4. Comparisons of Personality Disorder/Normal personality within each Type of Depression

In this analysis, the differences between personality disordered subjects and normal personality subjects within each type of depressed group with respect to the variables already considered for the complete group will be reported.

Hypothesis 3 d. **Within each diagnostic category of depression, the Personality Disorder Sub-Group will differ from the Normal Personality Sub-Group on the same variables, and in the same direction as stated in Hypothesis 2, for the Sample as a whole.**

The sub-hypotheses will not be repeated but will be referred to by title.

a. Major Depressive Disorder

The results are summarised at the end in Table 28.

Hypothesis 3 d (i) Age.

Those with major depression and personality disorder tended to be younger then those without personality disorder. The difference did not reach significance.

Hypothesis 3 d (ii) Beck Depression Inventory.

There was a non-significant trend in the predicted direction with the major depression group with personality disorder scoring higher on the Beck Depression Inventory.

Hypothesis 3 d (iii) Hamilton Rating Scale for Depression.

Both the major depression, personality disorder group and the major depression, normal personality group had similar scores on the Hamilton Rating Scale for Depression. Both groups were assessed as having a moderate level of depression. There was no significant difference in the scores and thus the hypothesis was not supported.

Hypothesis 3 d (iv) Eysenck Personality Inventory.

The major depression,personality disorder group scored higher than the major depression, normal personality group on the extraversion and neuroticism dimensions of the

Eysenck Personality Inventory and lower on the lie scale but the differences were not significant.

Hypothesis 3 d (v) Length of Stay.

The personality disorder group had a slightly longer length of stay in hospital than the normal personality group but it did not reach a significant level.

Hypothesis 3 d (vi) Socialization Scale.

Analysis of variance was done to determine the difference in the means for the Socialization Scale. The two groups differed on their Socialization Scale scores with the personality disorder group scoring lower than the normal personality group on this variable. The mean score for the personality disorders was 26.7 (4.22 SD). The mean score for the major depressive disorder subjects with no personality disorder was 32.1 (5.22 SD). The difference between the means of the two groups, major depression, personality disorder and major depression, normal personality on the Socialization Scale was highly significant ($F = 9.20$, $F(1,26)$, $p < 0.005$). The personality disorder group had scores similar to other populations identified as personality disorder in the literature. The normal personality subjects had scores on the SO Scale that were within normal limits (See Methodology). It should be noted that the score for the normal personality subjects was higher than the score

reported earlier when the subjects were divided as a whole into personality disorder and normal personality irrespective of diagnosis. The findings strongly support the hypothesis.

Hypothesis 3 d (vii) Stress Score.

The stress score for the personality disorder group was slightly lower than the stress score for the normal personality group, but it did not reach statistical significance.

Hypothesis 3 d (viii) Life Events.

The following two tables show the significant differences in life events for the personality disorder/normal personality subjects with Major Depressive Disorder. Desirable and undesirable events are shown in Table 26. Events grouped by area of activity is reported in Table 27 where a significant difference is seen between personality disorder and normal personality subjects with Major Depressive Disorder. The remainder of the results which were not significant are included in Appendix C. Table 3, Appendix C shows the reported life events. Table 4, Appendix C records the entrance and exit events. The lists of events have been omitted from these and subsequent tables on life events. (See Tables 1 - 2, Appendix C and Tables 19 - 20 in text for lists of events.)

Table 26

Desirable and Undesirable Events: Personality Disorder/Normal Personality with Major Depressive Disorder

Category	(n = 15) P.D.	(n = 13) Normal	chi sq Sig.
Desirable	1	0	NS
Undesirable	27	11	3.99 d.f. = 1 p < .05

Table 27
Events Grouped by Area of Activity: Personality Disorder/Normal Personality with Major Depressive Disorder

Category	(n = 15) P.D.	(n = 13) Normal	chi sq Sig.
Employment	11	6	NS
Health	11	2	3.87 d.f. = 1, p < .01
Family	6	7	NS
Marital	9	4	NS
Legal	1	0	NA

Hypothesis 3 d (ix) Alexithymia Scale.

There were no significant differences in the mean scores for the personality disorders and the normal personality subjects within the Major Depressive Disorder group either on the Alexithymia scale as a total or on the subscales. There was a tendency for the personality disorder group to have slightly higher scores but not at a significant level.

Hypothesis 3 d (x) Diagnostic Melancholia Scale.

The personality disorder group had a slightly higher score than the normal personality group on both the endogenous and the reactive dimensions of the Diagnostic Melancholia Scale, but it did not reach significance. The slightly higher score on the reactive dimension of the scale was in the predicted direction of the hypothesis.

Hypothesis 3 d (xi) Number of Admissions.

The number of past hospitalizations was slightly higher for the personality disorder group than the normal personality group, but did not reach significance. However, the trend was in the direction of the hypothesis.

Hypothesis 3 d (xii) Global Assessment of Functioning

A significant difference was found between the two groups on their functioning in the past year prior to

admission. The personality disorder group scored lower (mean = 77.1, 10.36 SD) than the normal personality group (mean = 69.2, 5.44 SD) indicating that the personality disorder group functioned less well than the normal personality group. This difference was significant at the 0.016 level [F(1,26) = 6.60].

For current level of functioning, the personality disorder group had a lower score indicating that they were functioning at a lower level than the normal personality group. However, the difference between the two groups did not reach significance.

Hypothesis 3 d (xiii) Social Functioning.

The scores for social functioning were similar for both the personality disorder and the normal personality groups with both groups viewing themselves as not functioning as well as they would like. This may be due to the fact that both groups were assessing themselves as they were functioning prior to hospitalization when they were feeling depressed.

Hypothesis 3 d (xiv) Work Performance.

Both groups reported difficulty in work performance and had similar scores. However, because of the high rate of unemployment in the personality disorder group, many of the subjects in this group were referring to work performance

around the home whereas in the normal personality group, most were referring to their performance on the job.

A summary of the means of the variables for the personality disorder and normal personality groups is shown in Table 28. The significant means are noted by an asterisk in the columns.

Table 28

Variables: Means and Standard Deviations by Major Depressive Disorder Group with/without Personality Disorder

Variables	(n = 13) normal personality	(n =15) personality disorders
Stress Score	3.2 (.73)	3.1 (.59)
Global Assessment of Functioning		
- Past*	77.1 (10.36)	69.2 (5.44)
- Current	44.8 (13.29)	41.8 (9.78)
Beck Depression Inventory	24.8 (7.61)	28.8 (11.22)
Hamilton Rating Scale for Depression	22.1 (9.91)	22.1 (6.93)
Socialization Scale**	32.1 (5.22)	26.7(4.22)
Eysenck Personality Inventory - Extraversion	7.9 (3.99)	10.5 (5.17)
- Neuroticism	14.0 (5.77)	17.8 (4.07)
- Lie	3.9 (1.61)	2.7 (1.79
Diagnostic Melancholia Scale		
- Endogenous	5.5 (3.13)	5.9 (2.42)
- Reactive	4.9 (2.19)	5.4 (2.13)
Length of stay	23.9 (18.99)	26.4 (13.38)
Work performance	1.6 (.77)	2.1 (1.13)
Performance in social settings	1.8 (.60)	2.0 (1.25)
Age (years)	37.8 (4.95)	33.2 (7.07)
Number of past hospitalizations	1.5 (1.45)	1.9 (1.39)

* significant $p < 0.02$
**significant $p < 0.005$

b. Adjustment Disorder Depression

Analysis was done for within group differences on the variables for the presence/absence of personality disorder in the Adjustment Disorder Depression group. An examination for significant differences between the personality disorder group with Adjustment Disorder Depression (n = 13) and the normal personality group with Adjustment Disorder Depression (n = 7) was conducted for the following data: the Beck Depression Inventory, the Hamilton Rating Scale for Depression, the Diagnostic Melancholia Scale, the Socialization Scale, Stress scale, Global Assessment of Functioning - current and past, length of hospital stay, work performance, and performance in social settings. The means and standard deviations are presented in Table 29. The only statistically significant finding was a difference between the scores was on the Extraversion Scale of the Eysenck Personality Inventory. The mean personality disorder score was 14.1 (2.41 SD) and was significantly higher than the normal personality score which was 9.7 (2.81 SD), $F(1,18) = 12.51$, $p < .002$. The sub-hypotheses will again be presented by title only.

Hypotheses 3 d (i) Age

The trend for personality disorder subjects 29.7, (7.11 SD) to have a lower mean age than the normal personality subjects 34.3, (9.48 SD) held for those whose

depression was diagnosed as Adjustment Disorder Depression. Even though the trend was in the predicted direction, it did not reach significance [$F(1,18) = 1.51$, $p < .235$].

Hypothesis 3 d (ii) Beck Depression Inventory

The Beck Depression Inventory scores were high for both groups. The mean score for the personality disorder group was 29.4 (10.13 SD) and the mean score for the normal personality group was 28.1 (12.71 SD), $F(1,18) = .057$, $p < .81$. The differences were not significant.

Hypothesis 3 d (iii) Hamilton Rating Scale for Depression

There was no significant difference in the Hamilton scores for depression [$F(1,18) = .833$, $p < .37$]. Although a trend existed, it was not in the direction predicted by the hypothesis. The personality disorder group scored higher with a mean of 21.0 (8.80 SD). The normal personality group had a mean score of 17.3 (8.42 SD).

Hypothesis 3 d (iv) Eysenck Personality Inventory

There was a highly significant difference between the personality disorder and normal personality groups on the Extraversion scale of the EPI [$F(1,18) = 12.52$, $p < .002$]. The mean score for the personality disorder subjects was 9.7 (2.81 SD) and that for the normal personality group whose mean score was 14.1 (2.41 SD). It was expected that the

personality disorder subjects would be more outgoing than the normal personality subjects. The personality disorders in with Adjustment Disorder Depression were more stable in this sample when comparing them to the norms outlined in the Methodology.

The groups had similar scores on the neuroticism scale. The personality disorder group had a mean score of 17.1 (6.55 SD) which was higher than the normal personality mean of 12.9 (4.98 SD), supporting the trend of the hypothesis, but the difference was not significant. The results indicate that both groups had neurotic traits.

The personality disorder subjects had a lower mean score on the Lie scale than the normal personality subjects but the difference was not significant. The mean score for the personality disorder group was 2.6 (2.02 SD) while the mean score for the normal personality group was 4.0 (2.16 SD). The results follow the same trend as was reported for personality disorder versus normal personality for the sample as a whole.

Hypothesis 3 d (v). Length of Stay

The mean length of stay was 24.2 (18.64 SD) for the personality disorder group which tended to be longer than the mean length of stay for the normal personality group which was 18.7 (12.71 SD). However, the difference was not significant [$F(1,18) = .486$, $p < .49$].

Hypothesis 3 d (vi) Socialization Scale

The mean score for the personality disorder group was 25.0 (5.52 SD) which was lower than the mean score for the normal personality group which was 30.4 (7.44 SD) [$F(1,18) = 3.46$, $p < .08$]. However, the difference did not reach significance. A score of 30.4 is just above the cutoff point for a normal score. The Adjustment Disorder Depression subjects with personality disorder would be considered deficient in role-taking ability.

Hypothesis 3 d (vii) Stress Score

The groups had similar scores for stress level with the personality disorder group having a mean of 3.5 (.52 SD) and the normal personality group having a mean score of 3.3 (.95 SD). This implies that both groups had a moderate level of stress but did not differ significantly.

Hypothesis 3 d (viii) Life Events

There were no significant differences for reported life events for those with/without personality who have a diagnosis of Adjustment Disorder Depression. Entrance and exit events are shown in Table 6, Appendix D. The non-significant results can be seen in Appendix D, Tables 5 - 8. Reported life events can be seen in Table 5, Appendix D. Table 7, Appendix D shows the desirable and undesirable life events. Area of activity for the personality disorder/

normal personality with Adjustment Disorder Depression is reported in Table 8, Appendix D.

Hypothesis 3 d (ix) Alexithymia Scale.

There were no differences between the personality disorders and the normal personality subjects in their alexithymia scores on the Alexithymia scale as a whole or on the subscales, alexithymia A, B, C. As existed in the Major Depressive Disorder group, the personality disorder group with Adjustment Disorder Depression had slightly higher scores on all scales that did not approach statistical significance. The mean score for the Adjustment Disorder Depression group with personality disorder was 4160.9 (545.11 SD). The mean score for the normal personality group with Adjustment Disorder Depression was 3887.6 (761.37 SD), $F(1,18) = 1.95$, $p < .36$. The mean score for the alexithymia A subscale for the personality disorder group was 1948.6 (310.96 SD). The mean score for the normal personality group was 1739.4 (507.1 SD), $F(1,18) = 2.66$, $p < .26$. The mean scores on the alexithymia B subscale were 1544.5 (241.25 SD) for the personality disorder group and 1507.3 (300.49 SD) for the normal personality group, $F(1,18) = 1.55$, $p < .77$). The mean scores on alexithymia C subscale were 667.8 (101.50 SD) for the personality disorder group and 641.9 (56.56 SD) for the normal personality group, $F(1,18) = 3.22$, $p < .54$.

Hypothesis 3 d (x) Diagnostic Melancholia Scale.

The endogenous scores were nearly the same for both groups. The personality disorder group had a mean score of 3.8 (1.79 SD). The normal personality group had a mean score of 3.4 (2.44 SD). The scores for both groups are relatively low indicating a low frequency of endogenous symptoms.

The differences in the means between groups on the reactive dimension was not significant. The mean score for the personality disorder group was 6.2 (1.73 SD) while the mean score for the normal personality group was 5.1 (2.19 SD). This indicated that the groups had a higher level of reactive symptoms of depression.

Hypothesis 3 d (xi) Number of Admissions

The groups did not differ significantly in the number of past admissions. The normal personality group had a mean of 1.4 (1.72 SD) admissions and the personality disorder group had a mean of .7 (.95 SD) admissions, $F(1,18) = 1.56$, $p < .23$.

Hypothesis 3 d (xii) Global Assessment of Functioning

There were no significant differences in the means for the groups on current functioning. The personality disorder group had a slightly higher score of 39.3 (12.34 SD) than the normal personality group who had a mean score of 36.4 (8.99 SD), $F(1,18) = .29$, $p < .59$.

The groups had similar mean scores on past functioning unlike the Major Depressive Disorder group that had significant differences. The mean score for the personality disorder group was slightly higher at 71.5 (9.66 SD) than the normal personality group at 69.7 (11.21 SD), $F(1,18) = .15$, $p < .71$.

Hypothesis 3 d (xiii) Social Functioning.

The results were similar for the two groups on social functioning. The mean score for social functioning was 1.5 (.66 SD) for the personality disorder group and 1.9 (.69 SD) for the normal personality group, $F(1,18) = 1.03$, $p < .32$.

Hypothesis 3 d (xiv) Work Performance.

The mean score for work performance was 1.6 (1.04) for the personality disorder group and 1.9 (1.07) for the normal personality group, $F(1,18) = .24$, $p < .63$. The differences were not statistically significant.

Table 29 gives a summary of the results for Adjustment Disorder Depression.

Table 29

Variables: Means and Standard Deviations by Adjustment Disorder Group with/without Personality Disorder

Variables	(n =7) normal personality		(n =13) personality disorder	
Eysenck Personality Inventory -Extraversion*	14.1	(2.41)	9.7	(2.81)
-Neuroticism	12.9	(4.98)	17.1	(6.55)
-Lie	4.0	(2.16)	2.6	(2.02)
Stress Score	3.3	(.95)	3.5	(.52)
Global Assessment of Functioning - Current	36.4	(9.00)	39.3	(12.34)
- Past	69.7	(11.21)	71.5	(9.66)
Beck Depression Inventory	28.1	(12.71)	29.4	(10.13)
Hamilton Rating Scale for Depression	17.3	(8.42)	21.0	(8.80)
Diagnostic Melancholia Scale - Endogenous	3.4	(2.44)	3.8	(1.79)
- Reactive	5.1	(2.19)	6.2	(1.72)
Socialization Scale	30.4	(7.44)	25.0	(5.52)
Length of stay	18.7	(12.71)	24.2	(18.62)
Work performance	1.9	(1.07)	1.6	(.29)
Social performance	1.9	(.69)	1.5	(.66)

*$p < 0.002$

c. Secondary Depression

Analysis was done for within group differences on the variables for the groups of subjects with/without personality disorder in the secondary depression group. Analysis of variance was again done as was done for the Major Depressive Disorder and Adjustment Disorder Depression groups. The same variables were measured and they are as follows: Beck Depression Inventory, the Hamilton Rating Scale for Depression, the Diagnostic Melancholia Scale, the Socialization Scale, Stress scale, Global Assessment of Functioning - current and past, length of hospital stay, work performance, and performance in social settings. The sub-hypotheses by heading only will again organize the presentation of the data. Table 31 gives a summary of the results for the variables. The small number of subjects (n = 3) in the normal personality group means that comparisons with the personality disorder group of subjects should be interpreted with caution.

Hypothesis 3 d (i). Age

There was no significant difference in the secondary depression with and without personality disorder for age although the personality disorder group tended to be younger with a mean age of 29.1 years (8.22 SD). Those without personality disorder had a mean age of 38.3 years (6.43 SD), $F(1,17) = 3.37$, $p < .08$. Although the differences are large,

the number of subjects is small in the normal personality group. Therefore, a statistically significant difference is unlikely under these conditions.

Hypothesis 3 d (ii) Beck Depression Inventory

While the scores on the Beck Depression Inventory tended to be higher for the personality disorder group, they were not significantly different from the normal personality subjects. The mean score for the personality disorder group was 29.8 (10.65 SD) while the mean score for the normal personality group was 21.7 (4.73 SD), $F(1,17) = 1.61$, $p < .22$. Based on these results, it was considered that both groups were moderately depressed.

Hypothesis 3 d (iii) Hamilton Rating Scale for Depression

A significant difference at the 0.04 level was found between the personality disorders and normal personality in the category of Secondary Depression. The personality disorders scored much higher on the Hamilton scale with a mean score of 16.9 (6.56 SD) than the normal personality group that had a mean score of 7.7 (2.08 SD), $F(1,17) = 5.56$, $p < .03$. These scores indicate that while the personality disorders were rated as being more depressed, neither group could be considered depressed using the Hamilton as an objective depression rating scale.

Hypothesis 3 d (iv) Eysenck Personality Inventory.

There was a significant difference at the 0.03 level between the groups for the neuroticism scale of the EPI. The personality disorder group scored much higher on this dimension with a mean score of 18.1 (4.03 SD) than did the normal personality group with a mean score of 11.7 (4.73 SD). One would expect a personality disorder group to report more neurotic type symptoms when compared to those without personality disorder. This supports the hypothesis.

The two groups had similar scores on the extraversion dimension of the EPI with no significant differences. The personality disorder group had a mean score of 8.9 (3.75 SD) and the normal personality group had a mean score of 11.7 (1.53 SD), $F(1,17) = 1.48$, $p < .24$. This indicated that neither group is extraverted and the personality disorder group is somewhat introverted. It was expected that the personality disorder group would be more extraverted.

There was no significant difference in Lie scale scores although the personality disorder group scored slightly lower with a mean of 2.9 (1.89 SD) when compared to the normal personality group whose mean score was 3.7 (2.08 SD), $F(1,17) = .44$, $p < .52$. Both scores are within normal limits.

Hypothesis 3 d (iv) Length of Stay

While the length of stay was longer for the personality disorder group, it was not significantly different from the normal personality group. The mean score for the personality disorder subjects was 24.7 (21.67 SD). The mean score for the normal personality group was 14.3 (4.93 SD), $F(1,17) = .65$, $p < .43$.

Hypothesis 3 d (v) Socialization Scale

Scores on the Socialization Scale were not significantly different between the groups. The mean score for the personality disorder group was 23.5 (6.47). The mean score for the normal personality group was 24.7 (4.93), $F(1,17) = .10$, $p < .76$. Both groups have a low mean score indicating that they are low in role-taking ability. This may be due to the small numbers in the normal personality group or possibly due to the fact that many of the subjects with secondary depression also had a diagnosis of dependency which might account for the low role-taking ability.

Hypothesis 3 d (vi) Stress Score.

The mean stress scores were similar with the personality disorder group scoring 3.3 (.45 SD) and the normal personality group scoring 3.0 (.00 SD). This indicates that both groups had a moderate level of stress and the difference was not statistically significant.

Hypothesis 3 d (vii) Life Events.

There were no significant differences between those with/without personality disorder and having secondary depression on frequency of life events, entrance and exit events, desirable and undesirable events or life events grouped by area of activity. Therefore the results are shown in Tables 9 - 12, Appendix D.

Hypothesis 3 d (vi) Alexithymia Scale

A significant difference at the 0.04 level existed between the personality disorder and the normal personality groups on their mean score of the Alexithymia scale as a total. The personality disorder group had the highest mean total. The same trend existed in the alexithymia A and B scales but not at a significant level. The groups had similar scores on the alexithymia C scale. The results of the scale are shown in Table 42. This supports the hypothesis.

Table 30

Means and Standard Deviations for Secondary Depression Personality Disorder/Normal Personality on Alexithymia Scale

Variables	P.D.	SD	Normal	SD
Alexithymia Scale*	4239.3	493.93	3558.7	487.91
Alexithymia A	1938.0	304.14	1545.3	255.11
Alexithymia B	1606.8	245.29	1306.0	236.14
Alexithymia C	694.5	87.17	707.3	1.16

$F(1,17) = 1.02$, $p < .05$

Hypothesis 3 d (vii) Diagnostic Melancholia Scale.

The mean score for the endogenous scale was 3.17 (1.98 SD) for the personality disorder group. The normal personality group had a mean score of 2.0 (1.73 SD), $F(1,17) = .75$, $p < .40$. The difference was not statistically significant. These scores are low and show that both groups had very few endogenous symptoms.

The reactive scores were a little higher than the endogenous score but were similar for both the personality disorder and the normal personality groups. The mean score for the personality disorder group was 5.7 (2.36 SD) and the mean score for the normal personality group was 5.7 (.58 SD), $F(1,17) = .0002$, $p < .99$.

Hypothesis 3 d (viii) Number of Admissions

There were no significant differences between the groups on their number of prior hospitalizations. The personality disorder group had a mean of 2.6 (2.99 SD) hospitalizations and those without personality disorder had a mean number of 2.0 (1.73 SD) hospitalizations, $F(1,17) = .12$, $p < .73$.

Hypothesis 3 d (ix) Global Assessment of Functioning

Both groups had comparable scores on their past levels of functioning. The personality disorder group had a mean score of 66.2 (7.08 SD) and the normal personality group had a mean score of 63.3 (7.64 SD), $F(1,17) = .40$, $p < .53$. Both groups scored rather low indicating that they had encountered difficulties in their functioning during the past year prior to hospitalization.

The mean scores for current level of functioning were similar for the two groups. The personality disorder group had a mean score of 39.1 (6.69 SD) and the normal personality group had a mean score of 35.0 (5.00 SD), $F(1,17) = .98$, $p < .34$. This indicated that both groups are functioning at a lower level than during the past year. The scores were not significantly different.

Hypothesis 3 d (x) Social Functioning.

The mean score for functioning in social situations was 1.9 (.96 SD) for the personality disorder group and 2.0 (1.00 SD) for the normal personality group, $F(1,17) = .04$, $p < .84$. This showed that both groups were having difficulty in functioning in social situations as well.

Hypothesis 3 d (xi) Work performance.

Similar scores were reported for both groups on performance at work. The mean score for work performance was 2.1 (1.18 SD) for the personality disorders and was 1.7 (.58 SD) for the normal personality, $F(1,17) = .31$, $p < .58$. This means that the secondary depression group as a whole irrespective of presence of personality disorder was having difficulty in performing work related tasks.

Table 31

Variables: Means and Standard Deviations by Secondary Depression Group with/without Personality Disorder

Variables	(n = 3) Normal Personality	(n = 16) Personality disorder
Hamilton Rating Scale for Depression*	7.7 (2.08)	16.9 (6.56)
Eysenck Personality Inventory- Extraversion	11.7 (1.53)	8.9 (3.75)
- Neuroticism*	11.7 (4.73)	18.1 (4.03)
- Lie	3.7 (2.08)	2.9 (1.88)
Stress Score	3.0 (.00)	3.3 (.45)
Global Assessment of Functioning - current	35.0 (5.00)	39.1 (6.69)
- past	63.3 (7.64)	66.2 (7.08)
Beck Depression Inventory	21.7 (4.73)	29.8(10.65)
Socialization Scale	24.7 (4.93)	23.5 (6.47)
Diagnostic Melancholia Scale - Endogenous	2.0 (1.73)	3.1 (1.98)
- Reactive	5.7 (.58)	5.7 (2.36)
Length of stay	14.3 (4.9)	24.7(21.66)
Work performance	1.7 (.58)	2.1 (1.18)
Social performance	2.0 (1.00)	1.9 (.96)

*p < 0.05

5. Summary

As observed earlier, the findings in this part of the study must be viewed with caution because of the small number of normal personality subjects. The within group differences for those with/without personality disorder were noted for each depressive disorder. The personality disorders in the Major Depressive Disorder group differed from the normal personality subjects in their past functioning which was worse, in their role-taking ability which was much lower, and in their occupational status which was lower socioeconomically. Significant differences were noted in the major depressive disorder group with the personality disorder subjects reporting a greater number of undesirable life events and health related life events than the normal personality subjects. The personality disorder/normal personality had similar depression scores, personality dimension scores, stress scores and current level of functioning scores. They were of comparable ages, had similar lengths of stay in hospital, performed similarly in work and social settings and had similar numbers of previous admissions. Alexithymia scores did not differ for those with/without personality disorder in the major depressive disorder group.

The personality disorders in the adjustment disorder depression group differed from the normal personality subjects in the extraversion dimension of the

Eysenck Personality Inventory with a significantly lower score. This might be anticipated since this group had fewer Cluster B types of personality disorder than the other depressed groups. Cluster A and C types of personality disorder might be expected to be more introverted. The personality disorders in the adjustment disorder depressed group did not differ from the normal personality group in their past functioning, role-taking ability or occupational status unlike the personality disorders in the major depressive disorder group. Alexithymia scores were similar for both the personality disorders and the normal personality subjects also.

The personality disorders in the secondary depression group were different from those without personality disorder on their Hamilton Rating Scale for Depression score with the personality disorders assessed as being more depressed. The personality disorders also differed on the neuroticism dimension of the Eysenck Personality Inventory with the personality disorders having a much higher score than the normal personality subjects. The personality disorder subjects with Secondary Depression did not differ from the normal personality subjects on the extraversion dimension as was the case for Adjustment Disorder Depression group nor in their past functioning as was the case for the Major Depressive Disorder group. However, past functioning was poor for both those with/without personality disorder in

the secondary depression group. There were also no differences in the role-taking ability. However, the scores for both groups were quite low indicating that the normal personality subjects as well as the personality disorders were deficient in their role-taking ability. This might be expected in a group of patients largely suffering from dependency problems. Significant differences existed for those with/without personality disorder having secondary depression on the alexithymia total score with the personality disorders having a significantly higher score indicating a possible exaggerated response or hyperlexithymia.

E. Section 4

1. Comparisons between depressed groups on variables restricted to personality disorder subjects

The analysis is restricted to those patients with personality disorder in the depressed groups to determine if the personality disorders who develop Major Depressive Disorder are different from those personality disorders who develop Adjustment Disorder Depression or a depressive disorder secondary to some other mental disorder. The

significant differences between the groups will be reported as organized by the hypotheses (See Table 36).

Hypothesis 4.a. **The Major Depressive Disorder/Personality Disorder Sub-Group will have lower mean alexithymia scores than the Adjustment Disorder/Personality Disorder Sub-Group and the Secondary Depression/Personality Disorder Sub-Group.**

Personality disorder subjects with Major Depressive Disorder did have lower alexithymia scores than the personality disorder subjects with Adjustment Disorder Depression and Secondary Depression. While the trend existed, it did not reach statistical significance. The mean alexithymia total score for the Major Depressive Disorder group was 4017.5 (436.41 SD), for the Adjustment Disorder Depression group was 4160.9 (545.11 SD), and for the Secondary Depression group was 4239.3 (493.93 SD), $F(2,64) = .81$, $p < .45$. The mean alexithymia A subscale score for the Major Depressive Disorder group was 1863.8 (334.23 SD), for the Adjustment Disorder Depression was 1948.6 (310.96 SD), and for the Secondary Depression group was 1938.0 (304.14 SD), $F(2,64) = .31$, $p < .73$. The mean alexithymia B subscale score for the Major Depressive Disorder was 1539.1 (179.35 SD), for the Adjustment Disorder Depression was 1544.5 (241.25 SD), and for the Secondary Depression group was 1606.8 (245.29 SD), $F(2,64) = .43$, $p < .65$. The mean alexithymia C subscale score for the Major Depressive Disorder was 614.6 (82.59 SD), for the Adjustment Disorder Depression was 667.8 (101.50),

and for the Secondary Depression group was 694.5 (87.17SD), $F(2,64) = 3.12$, $p < .055$. The same trends existed for the subscales of the alexithymia scale with those personality disorders with Major Depressive Disorder scoring lower on all three scales than those with Adjustment Disorder Depression and Secondary Depression.

Hypothesis 4 b. **The Adjustment Disorder/Personality Disorder Sub-Group will have a higher frequency of stressful life events than the Major Depressive Disorder and Secondary Depression/Personality Disorder Sub-Groups.**

The personality disorder subjects with Adjustment Disorder Depression did have a higher frequency of life events in general and more exit, undesirable, family, health, marital and employment events than did the personality disorder subjects with Major Depressive Disorder. However, these were not statistically significant, but as they are of considerable interest, the results are included in the text rather than being relegated to the appendix.

The following four tables show the reported life events for the personality disorders in each of the depressed groups. Table 32 summarizes the reported life events for the personality disorders in each type of depression. Table 33 tabulates the entrance and exit events. Table 34 records the

desirable and undesirable events for the personality disorders in each type of depression. Table 35 groups the events by area of activity.

Table 32

Tabulation of Life Events for Personality Disorders by Type of Depression

Life Event	(n =15) MDD.	(n= 13) AD.	(n = 16) SD.
1. Major financial problems	8	8	7
2. Unemployment	6	5	8
3. Increases arguments with spouse	6	8	5
4. Family member has serious illness	6	4	3
5. Death of close family member	2	6	3
6. Serious physical illness	3	3	3
7. Changes at work	3	2	4
8. Separation	2	3	3
9. Move	1	5	1
10. Difficulties with children	3	1	2
11. Stress at school	0	5	1
12. Physical Abuse	0	2	3
13. Arguments with family members	0	1	4
14. Divorce	1	2	1
15. Criminal charges	0	2	2
16. Few friends	0	2	0
17. Family member has legal problems	1	2	2
18. Leave School	0	2	1
19. Sexuality a concern	1	2	0
20. Sexual Abuse	1	2	0
21. Family member leaves home	0	1	1
22. Family member has marital problems	0	0	2
23. Engagement	1	1	0
24. Weight gain	0	1	1
25. Pregnancy	1	1	0
26. New job	1	0	1
27. Fired	0	2	0
28. Business failure	1	1	0
29. Court appearance	1	0	1
30. Best friend moved	0	0	0

MDD. (Major Depressive Disorder)
AD. (Adjustment Disorder Depression)
SD. (Secondary Depression)

Table 33

Entrances and Exits from Social Field for Personality Disorder by Type of Depression

Category	(n = 15) MDD.	(n = 13) AD.	(n = 16) SD.
Entrance	3	1	2
Exit	6	15	8

chi sq. = 5.66, d.f. = 2 N.S.

Table 34

Desirable and Undesirable Events: Personality Disorder by Type of Depression

Category	(n = 15) MDD.	(n = 13) AD.	(n = 16) SD.
Desirable	1	1	0
Undesirable	27	35	26

chi sq. = 3.93, d.f. = 2, N.S.

Table 35

Events Grouped by Area of Activity: Personality Disorder by Type of Depression

Category	(n = 15) MDD.	(n = 13) AD.	(n = 16) SD.
Employment	11	15	14
Health	11	10	6
Family	6	10	10
Marital	9	13	9
Legal	1	3	3

not significant

Hypothesis 4 c. **The Major Depressive Disorder/Personality Disorder Sub-Group will have a higher mean score on the Hamilton Rating Scale for Depression than the Adjustment Disorder and Secondary Depression Personality Disorder Sub-Groups and the Secondary Depression/Personality Disorder Sub-Group.**

The Major Depressive Disorder/personality disorder subgroup did have a higher mean score on the Hamilton Rating

Scale for Depression than the Adjustment Disorder/personality disorder subgroup and the Secondary Disorder/personality disorder subgroup, but the results did not reach significance (See Table 36 for means and SD).

Hypothesis 4 d. **The Major Depressive Disorder/Personality Disorder Sub-Group will have a higher mean score on the "endogenous" component of the Diagnostic Melancholia Scale than the Adjustment Disorder/Personality Disorder and Secondary Disorder/Personality Disorder Sub-Groups.**

There was a significant difference between groups on the endogenous section of the Diagnostic Melancholia Scale with the Major Depressive Disorder group with personality disorder having a significantly higher score than both the Adjustment Disorder group and the Secondary Depression group. The mean score for the Major Depressive Disorder group was 5.9 (2.42 SD). The mean score for the Adjustment Disorder group was 3.8 (1.79 SD). The mean score for the Secondary Disorder group was 3.1 (1.98 SD). The differences were significant at the 0.002 level, $F(2,41) = 9.54$.

Hypothesis 4 e. **The Adjustment Disorder/Personality Disorder Sub-Group will have a higher mean score on "reactive" component of the Diagnostic Melancholia Scale than the Major Depressive Disorder/Personality Disorder Sub-Group.**

The Adjustment Disorder/Personality Disorder subgroup did have a higher mean score on the reactive dimension of the Diagnostic Melancholia Scale than the Major Depressive Disorder/Personality Disorder subgroup. However, while the trend existed, it did not reach statistical significance. (See Table 36 for means and SD).

Although hypotheses could not be formulated for the other variables in this part of the study, differences between diagnostic sub-categories with personality disorder were examined, in the hope that the findings might generate hypotheses. Table 36 summarizes the mean scores and standard deviations on the variables between the depressed groups restricted to personality disorder subjects.

Table 36

Variables: Means and Standard Deviations for Personality Disorder by Type of Depression

Mean	MDD	ADD	SecD
EPI-Extraversion	10.5	9.7	8.9
SD	5.17	2.81	3.75
EPI-Neuroticism	17.8	17.08	18.1
SD	4.07	6.55	4.03
EPI-Lie	2.7	2.6	2.9
SD	1.79	2.02	1.88
Length of stay	26.4	24.2	24.7
SD	13.38	18.62	21.66
Work performance	2.1	1.6	2.1
SD	1.13	1.04	2.06
Social performance	2.0	1.5	1.9
SD	1.25	0.6	0.96
Diagnostic Melancholia Scale-Endogenous*	5.9	3.8	3.1
SD	2.42	1.79	1.98
Reactive	5.4	6.15	5.7
SD	2.13	1.73	2.36
Socialization Scale	26.7	25.0	23.4
SD	4.22	5.52	6.47
Stress score	3.1	3.5	3.3
SD	0.59	0.52	0.45
External stress	1.3	1.9	1.6
SD	0.72	0.28	0.73
Prior hospitalizations*	1.9	0.7	2.6
SD	1.39	0.95	2.99

(table continues)

Mean	MDD	ADD	SecD
Global Assessment of Functioning - current	41.8	39.3	39.1
SD	9.78	12.34	6.69
- past	69.2	71.5	66.2
SD	5.44	9.66	7.08
Hamilton Rating Scale for Depression	22.1	21.0	16.9
SD	6.93	8.80	6.56
Beck Depression Inventory	28.8	29.4	29.8
SD	11.22	10.13	10.65
Age	33.2	29.7	29.1
SD	7.07	7.11	8.22

* $p < 0.05$

2. Summary

In this section, the personality disorders in each depressed group were compared for differences on the variables. In observing the characteristics of the subjects with personality disorder in each of the depressed groups, they were found to be different only on their past number of admissions with the Secondary Depressions having significantly more past hospitalizations than the Adjustment Disorder Depressions. There was also a difference in the scores on the endogenous dimension of the Diagnostic Melancholia Scale with the personality disorders having Major Depressive

Disorder being significantly more depressed in terms of endogenous symptoms.

A trend existed in that these subjects with personality disorder tended to score in the predicted direction for the depression categories stated in the hypotheses even though the scores did not reach a significant level.

F. Section 5

1. Differences Between Variables: Borderline Personality Disorder Versus Normal Personality

It was difficult to make assumptions on the basis of an individual personality disorder because there was overlap of diagnoses in many of the subjects, with 30 out of the 44 identified personality disorders having a diagnosis of Borderline Personality Disorder. This was an unexpected but interesting finding. Since there was a high frequency of Borderline Personality Disorder across the depressed groups, the final analyses will focus on Borderline Personality Disorder compared to those subjects without personality disorder irrespective of the diagnostic categories of depression. All subjects with a personality disorder other than Borderline Personality Disorder were dropped from this part of the study. Analysis of variance was done on the variables and will be reported in the following section. In

this analysis, there were 30 Borderline Personality Disorders and twenty-three subjects without personality disorder.

The Borderline Personality Disorder subjects were then compared to those subjects with other types of personality disorder in order to determine if those with Borderline Personality Disorder behave distinctively from those subjects with other personality disorder.

a. Sex Males and females were evenly distributed in the groups with there being more females in each group than males. There was no significant difference in the numbers using crosstabs tables.

b. Beck Depression Inventory The mean score for the Borderline Personality Disorder group of subjects was significantly higher than the normal personality subjects significant at the 0.0318 level, $F(1,51) = 4.88$. The actual mean score for the borderline group was 31.3 (10.17 SD). The mean score for the normal personality group was 25.4 (9.06 SD). This indicated that while both groups viewed themselves as being depressed, the borderline group rated themselves as being more severely depressed.

c. Hamilton Rating Scale for Depression The mean scores for the groups on the Hamilton Rating Scale for depression were similar for both the Borderline Personality Disorder and the normal personality groups. The mean score for the borderline group was 19.7 (7.90 SD). The mean score for the normal personality group was 18.73 (9.86 SD). A

crosstabulation was done for frequency of suicide attempt. Twelve of the 30 (40%) Borderline Personality Disorder subjects had attempted suicide compared to one of the normal personalities and 2 of the other personality disorders. The difference was significant at the 0.025 level [F(2,64) = 8.92]. Based on these findings, 80% of the total sample of those who attempted suicide were Borderline Personality Disorder subjects.

d. Socialization Scale There was a large difference in the mean scores for the Socialization Scale for the Borderline Personality Disorder group and the normal personality group. The borderline group had a mean score of 24.23 (5.53 SD) which was considerably lower than the normal personality group that had a mean score of 30.61 (6.18 SD). This difference was significant at the 0.0002 level [F(1,51) = 15.59]. This implied that the Borderline Personality Disorder group were much worse at role-taking than the normal personality group.

e. Diagnostic Melancholia Scale - Endogenous There was no significant difference between the groups on the endogenous dimension of the Diagnostic Melancholia Scale. The mean score for the borderline personality subjects was 4.26 (2.39 SD) and the mean score for the normal personality group was 4.87 (3.06 SD).

Reactive The groups also had similar scores on the reactive dimension of the Diagnostic Melancholia Scale. The

mean score for the Borderline Personality Disorder group was 5.63 (1.92 SD) and the mean score for the normal personality group was 5.04 (2.01 SD). The difference was not significant.

f. Eysenck Personality Inventory - Extraversion

There was no significant difference in the mean scores for the groups on this dimension of the EPI scale . The Borderline Personality Disorder group had a mean score of 9.00 (3.73 SD). The normal personality group scored slightly higher with a mean score of 10.30 (4.33 SD).

Neuroticism There was a highly significant difference between the groups on this dimension of the EPI. The Borderline Personality Disorder group had a mean score of 18.70 (3.54 SD). The normal personality group had a mean score of 13.35 (5.26 SD). This was significant at the 0.0001 level [$F(1,51) = 19.54$] and indicated that the Borderline Personality Disorders were much more neurotic than the normal personality subjects.

Lie There was also a significant difference between the groups on the lie scale with the Borderline Personality Disorder group having a lower mean score than the normal personality group. The mean score for the Borderline Personality group was 2.37 (1.73 SD) and the mean score for the normal personality group was 3.91 (1.76 SD). The difference was significant at the 0.0023 level [$F(1,51) = 10.26$] indicating that the Borderline Personality Disorder

group were more consistent in their responses than the normal personality group.

g. **Stress Score** Both groups reported moderate levels of stress and there was no significant difference in the means for the borderline and the normal personality subjects. The mean score for the borderline group was 3.37 (0.49 SD) and the mean score for the normal personality group was 3.22 (0.74 SD).

h. **Global Assessment of Functioning** Both groups had similar levels of current functioning near the time of discharge. The Borderline Personality Disorder group had a mean score of 38.01 (8.98 SD) and the normal personality group had a mean score of 40.95 (11.86 SD). The means were not statistically significant.

The Borderline Personality Disorder group had a mean score slightly lower than the normal personality group on past level of functioning but not at a significant level. The mean score for those subjects with Borderline Personality Disorder was 68.30 (8.03 SD). The mean score for the subjects without personality disorder was 73.04 (11.14 SD).

i. **Age** A significant difference at the 0.003 level [$F(1,51) = 9.59$] existed between the groups on mean ages. The Borderline Personality Disorder group were significantly younger with a mean score of 30.47 (7.91 SD) while the group without personality disorder had a mean score of 36.83 (6.68 SD).

j. **Length of Stay** The Borderline Personality Disorder group had slightly longer lengths of stay, but did not reach significance. The mean length of stay for the Borderline Personality Disorder group was 31.03 (20.79 SD). The mean length of stay for the group without personality disorder was 21.09 (15.99 SD).

k. **Employment** A significant difference at the 0.04 level [d.f. = 1, chi sq = 4.25] existed using chi square for employment status with significantly more unemployment in the Borderline Personality Disorder group.

l. **Education and Occupation** There was no significant difference in the groups in terms of educational background or occupational status. This is interesting considering that many more Borderline Personality Disorder are unemployed.

m. **Work Performance and Performance in Social Situations** Both groups had equal difficulty in both performance in work situations and in social situations. There was no significant difference in the mean scores for the groups.

n. **Hospitalizations** The groups were similar in the number of past hospitalizations. It was expected that maybe the Borderline Personality Disorders would have a greater number of previous hospitalizations.

o. **Life Events** The reported life events with significant differences for the Borderline Personality Disorder subjects and those subjects without personality

disorder are shown in Tables 37 - 38. Using chi square goodness of fit test, there were significant differences between the two groups on reported undesirable, employment, and health life events. All three were highly significant differences. The non-significant results are shown in Tables 13 - 14, Appendix D.

Table 37

Desirable and Undesirable Events: Borderline versus Normal Personality

	(n = 30)	(n = 23)		
Category	**Borderline**	**Normal**	**chi sq Sig.**	**Events**
Desirable	1	0	NA	
Undesirable	68	25	9.66 d.f. = 1 p < .001	

Table 38

Events Grouped by Area of Activity: Borderline versus Normal Personality

	(n = 30)	(n = 23)	
Category	Borderline	Normal	chi sq Sig.
Employment	30	10	4.79 d.f. = 1 p < .05
Health	22	4	7.20 d.f. = 1 p < .05
Family	18	9	NS
Marital	21	8	NS
Legal	5	2	NS

p. Alexithymia Scale A significant difference existed between the groups on their total alexithymia scores. The Borderline Personality Disorder subjects had a much higher mean score of 4224.57 (463.01 SD). The normal personality group had a mean score of 3880.52 (616.99 SD).

This was significant at the 0.02 level, $F(1,51) = 5.39$.

A significant difference also existed between the groups on the Alexithymia A section of the scale. The Borderline Personality Disorder had a mean score of 1946.20 (281.62 SD) which was higher than the normal personality group that had a mean score of 1755.04 (350.74 SD). This was significant at the 0.03 level [$F(1,51) = 4.85$].

The scores were similar for the two groups on Alexithymia B section. The Borderline Personality Disorder had a mean score of 1591.33 (206.18 SD). The subjects without personality disorder had a mean score of 1477.26 (286.36 SD).

The scores for Alexithymia C were again not significant. Once again, the Borderline Personality Disorder scored slightly higher with a mean score of 687.03 (73.87 SD). The normal personality group had a mean score of 648.22 (82.79 SD).

2. Comparison of Borderline Personality Disorder versus other Personality Disorders

This section compared the results on the variables for the Borderline Personality Disorder subjects and those subjects with other types of personality disorder using the same tests of significance as used in the other sections of the results.

a. Age There was no significant difference for age between the two groups. The Borderline Personality Disorder subjects had a mean age of 30.47 (7.91 SD) and the other personality disorder subjects had a mean age of 31.07 (7.06 SD).

b. Length of stay There was a significant difference between the two groups for length of hospital stay. The Borderline Personality Disorder group had a longer length of stay with the mean being 31.03 (20.79 SD) than the other personality disorder group with a mean stay of 17.21 (15.27 SD). This was significant at the 0.03 level [$F(1.42) = 4.92$].

c. Number of Hospitalizations No significant differences were found for number of past hospitalizations. The mean number for the Borderline Personality Disorder subjects was 1.77 (2.45 SD) and for the other personality disorder subjects, the mean number was 1.93 (1.38 SD).

d. Beck Depression Inventory The Borderline Personality Disorder subjects reported more symptoms of depression than the other personality disorder subjects. The mean score for the Borderline Personality Disorder group was 31.33 (10.17 SD) while the mean score for the other personality disorders was 25 (10.07 SD). The difference between the two groups almost reached significance.

e. Eysenck Personality Inventory The Borderline Personality Disorder group had lower mean scores on the

extraversion scale of the Eysenck Personality Inventory with a mean score of 9 (3.73 SD). The other personality disorder group had a mean score of 11.38 (4.37 SD). While the difference did not reach significance, a trend did exist.

A significant difference existed between the Borderline Personality Disorder group and the other personality disorder group on the neuroticism dimension of the Eysenck Personality Inventory with the Borderline Personality Disorders having a mean score of 18.7 (3.54 SD) and the other personality disorders having a mean score of 15.31 (6.54 SD). This was significant at the 0.05 level [$F(1,41) = 4.88$].

A significant difference also existed between the groups on the lie scale of the Eysenck Personality Inventory. The borderline group had a mean score of 2.37 (1.73 SD) and the other personality disorder group had a mean score of 3.62 (1.89 SD). The difference was significant at the 0.05 level [$F(1,41) = 4.46$].

f. Hamilton Rating Scale for Depression Both groups were rated as being moderately depressed on the Hamilton Rating Scale for Depression. The Borderline Personality Disorder subjects had a mean score of 19.7 (7.60 SD) and the other personality disorder subjects had a mean score of 20.28 (7.16 SD). The findings did not reach significance.

g. Diagnostic Melancholia Scale There were no significant differences on either the endogenous or the

reactive dimensions of the Diagnostic Melancholia Scale. The Borderline Personality Disorder subjects had a mean endogenous score of 4.26 (2.39 SD) and a mean reactive score of 5.63 (1.92 SD). The other personality disorder group had a mean endogenous score of 4.29 (2.43 SD) and a mean reactive score of 5.79 (2.58 SD).

h. Stress Score The Borderline Personality Disorder subjects had a higher stress score than the other personality disorder subjects. The mean score for the borderline group was 3.37 (.49 SD) and the mean score for the other personality disorder subjects was 3.07 (.62 SD).

i. **Global Assessment of Functioning** A significant difference at the 0.04 level existed for current level of functioning for the two groups with the Borderline Personality Disorder subjects scoring lower than the other personality disorders indicating that the Borderline Personality Disorder group was functioning at a worse level. The mean score for the Borderline Personality Disorder subjects was 38.1 (8.98 SD). The mean score for the other personality disorder subjects was 44.29 (9.61 SD) [$F(1,41) = 4.33$].

There were no significant differences in past level of functioning with the Borderline Personality Disorder subjects scoring 68.30 (8.03 SD) and the other personality disorder subjects scoring 69.86 (6.81 SD).

j. Socialization Scale The Borderline Personality Disorder subjects scored lower than the other personality disorders on the Socialization Scale. The mean score for the Borderline Personality Disorder group was 24.23 (5.54 SD) while the mean score for the other personality disorder group was 26.64 (5.40 SD). The difference did not reach significance.

k. Social Functioning The scores were similar for both groups in their social functioning. The mean score for the Borderline Personality Disorder group was 1.87 (1.11 SD) and for the other personality disorder group, the mean score was 1.71 (.73 SD) indicating that both groups were having difficulty in social functioning.

l. Work Performance Both groups had difficulty in work performance as well. The borderline group had a mean score of 1.93 (1.17 SD). The other personality disorders had a mean score of 2.00 (1.04 SD). The differences were not significant.

m. Alexithymia Scale The Borderline Personality Disorder group score slightly higher than the other personality disorder subjects on the Alexithymia scale as a total. The mean score for the Borderline Personality Disorder group was 4224.57 (463 SD) and the mean score for the other personality disorder group was 3960.43 (511.20 SD). The difference did not reach significance.

The scores for alexithymia A scale were similar for both groups. The Borderline Personality Disorder subjects had a mean score of 1946.20 (281.62 SD) and the other personality disorder subjects had a mean score of 1850.79 (370.80 SD). The differences were not significant.

The groups again scored similarly on alexithymia B scale with the Borderline Personality Disorder subjects having a mean score of 1591.33 (206.18 SD) and the other personality disorder subjects having a mean score of 1509.57 (247.77 SD). This was again not at a significant level.

A significant difference existed between the groups for the alexithymia C scale. The mean score for the Borderline Personality Disorder subjects was 687.03 (73.87 SD) and the mean score for the other personality disorder group was 600.07 (108.62 SD). This was significant at the 0.003 level [$F(1,42] = 9.73$].

n. Life Events A significant difference was noted between Borderline Personality Disorder and other personality disorders for marital life events with the Borderline Personality Disorder group reporting more difficulties linked with marital situations. The results are reported in Table 40. No significant differences were seen for the other dimensions of the life events (see Appendix D, Tables 15 - 17).

Table 39

Events Grouped by Area of Activity Frequency, Difference Between Borderline/Other Personality Disorder Subjects

Category	(n = 30) Borderline P.D.	(n = 14) Other P.D.	chi sq Sig
Employment	30	10	NS
Health	22	5	NS
Family	18	7	NS
Marital	21	0	8.39* d.f. = 1 p < .001
Legal	5	1	NS

3. Summary

Males and females were equally distributed in the Borderline Personality Disorder and the normal personality groups. Those with Borderline Personality Disorder viewed themselves as being more depressed than those without personality disorder as measured by the Beck Depression Inventory.

There was also a wide margin of difference on the role-taking ability of the Borderline Personality Disorder versus the normal personality subjects with the Borderline Personality Disorder scoring much lower on the Socialization

scale. There was also a highly significant difference on the Eysenck Personality Inventory neuroticism scale with the Borderline Personality Disorder being highly neurotic as compared to the normal personality subjects. The Borderline Personality Disorder had significantly lower mean lie scores than those without personality disorder.

The Borderline Personality Disorder was a younger population than the normal personality group and had a higher rate of unemployment. Differences in the Alexithymia Scale scores with the Borderline Personality Disorders having a significantly higher score as a total as well as on Alexithymia Scale A dimension, a scale which elicits a person's response to situations.

When comparing the Borderline Personality Disorder subjects to the other personality disorder subjects in the study, some basic differences were found. They include longer length of stay in hospital for the Borderline Personality Disorder subjects than those with other personality disorders. The Borderline Personality Disorder group were found to be more neurotic and more consistent with their responses on the Eysenck Personality Inventory. The current level of functioning was worse for the Borderline Personality Disorder subjects as well. The borderline group had a significantly higher score on the Alexithymia C portion of the scale than did the other personality disorder group. The Borderline Personality Disorder subjects also reported

more marital problems as life events that stressed them than did the other personality disorder group.

IV. DISCUSSION

A. Introduction

The study set out to examine hypotheses that postulated a set of relationships between depression and personality disorder. In the general hypothesis, it was postulated that personality disorders have a substantial association with psychiatric morbidity. For the purpose of this study, psychiatric morbidity was limited to being admitted to a general hospital psychiatric unit and having depression.

The more reactive types of depression such as Adjustment Disorder Depression and perhaps depression secondary to other causes (eg. drug dependency) would be, it was postulated, more closely associated with presence of personality disorder than Major Depressive Disorder. However, it was expected that all types of depressive disorders would be more severe if there was a coexisting personality disorder. The discussion will examine the evidence that has been obtained in support of, or against, these hypotheses.

B. Personality Disorder in a psychiatric inpatient sample with depression

1. Frequency

The main finding in this study was a high rate of personality disorder, as determined by the PDE, in

hospitalized depressions. The finding that two-thirds of the subjects had personality disorder indicates that these conditions are substantially associated with psychiatry morbidity. This proportion, 66%, was higher than anticipated and will, if confirmed, have implications for patient management. In addition, a high proportion of these subjects, 68%, met the diagnostic criteria for more than one personality disorder.

One would expect treatment of a depression to be more difficult in the presence of one or more personality disorders than for subjects with normal personalities. Patients with personality disorder are more likely to respond with deviant behaviour to the stress of a depression, and their difficulties in forming relationships will affect the therapeutic process.

In the clinical situation, it is difficult sometimes to identify personality disorder in the presence of a depressive disorder, and the conjunction of these two conditions may play a part in some apparently treatment resistant depressions. The converse may also occur as, for example, when a personality disorder is identified (eg. Borderline Personality Disorder), a concurrent depression may be missed because the features of the personality disorder predominate.

2. Comparative Literature on the Frequency of Personality Disorder

A search of the literature revealed a limited amount of information regarding the frequency of personality disorder for psychiatry inpatients. Most of this literature focused on the borderline patient. Widiger and Rogers (1989) estimated that 15% of all inpatients have Borderline Personality Disorder and that 51% of all inpatients with personality disorder are Borderline. The findings of the present study when compared to those of Widiger and Rogers is much higher for the frequency of personality disorders. However, the samples are not comparable because the subjects of the present study were selected because they had depression, which may have stronger associations with Personality Disorders than other psychiatric conditions. The percentage of Borderline Personality Disorders in the present study is higher than that of Widiger and Rogers but their estimate that 51% of personality disorders are Borderline is similar to that found in this study (68%).

Widiger and Rogers' study did not include any other data for personality disorders in general, but they claimed that most patients who meet the criteria for one personality disorder will also meet the criteria for another personality disorder. This, they said, especially applies to those who are inpatients. Their claims are supported by the findings in this study where more than one type of personality

disorder was found in 68% of the subjects with a diagnosis of personality disorder.

In view of the limited literature on the frequency of personality disorder in psychiatric inpatients, studies of outpatient populations were reviewed. Mellsop, Varghese, Joshua et al. (1982) found that 86% of their sample of outpatients, selected randomly had personality disorder. This finding was higher than that found in the present study and in the study by Widiger and Rogers. One possible explanation for the difference is that the present study focused on psychiatric inpatients with a significant degree of depression. This would exclude many patients who have drug and/or alcohol dependence without or with moderate symptoms of depression. This group of patients might be expected to have a high frequency of personality disorders because of life style and behaviours associated with it. Alnaes and Torgerson (1988a) showed that 81% of the patients studied met the criteria for a personality disorder and nearly half of them met the criteria for more than one personality disorder diagnosis. The sample of 298 patients was taken from an outpatient section of the Department of Psychiatry, University of Oslo. The Structured Interview for Personality Disorders (SIDP) was used as the measurement. The most frequently diagnosed personality disorders in Alnaes and Torgersen's sample were Avoidant and Dependent Personality Disorders, whereas in this study, Borderline

Personality Disorder was the most frequent diagnosis. Their study showed frequencies of personality disorder similar to Mellsop et al. (1982) which is again higher than this study.

Other studies have reported fewer personality disorders. Kass, Skodal, Charles, Spitzer, and Williams (1985) found that 51% of the 609 outpatients studied, met the criteria for one or more personality disorders. Reich (1987) found that 48.8% of 170 outpatients studied had some personality disorders when using the SIDP. The results of these studies more closely resemble the findings of the present study for inpatients. Since Reich used the same measurement instrument as Alneas and Torgerson, but in a different cultural setting, it may be that culture has a role in the presentation of personality disorder.

Alnaes and Torgersen (1988b) also found that personality disorder generally occurred no more frequently in outpatients with affective disorder than in the total patient population, even though specific personality disorders are sometimes associated with patients having dysthymic and cyclothymic disorders. Their findings indicate that there is a high frequency of personality disorders in all outpatients, and these disorders are not related to any specific Axis I, DSM-III-R diagnosis. If this finding applied to inpatients, then the percentage of personality disorder within the given age range with depression in the present study may be

representative of all inpatients, irrespective of the Axis I diagnosis.

The proportion of personality disorders found in this study of psychiatric inpatients will be compared to studies of personality disorder in the general population. A review of the epidemiological literature showed the prevalence rates to be low in the population at large. However, each study used a different method of approach and organization in identifying and classifying presence of personality disorder. It is useful to summarize the studies reviewed to demonstrate how they differ in method and findings from the present study.

Prior to the publication of DSM-III, epidemiological studies of prevalence of mental disorder relied initially upon records and clinical informants to account for the number of ill people (Dohrenwend & Dohrenwend, 1982). A review of the area of epidemiology clearly showed a limited number of studies in the area of general psychiatry and more so in the area of personality disorder. Jarvis (1885) made the first partially completed attempt to investigate the true prevalence of mental disorder in the United States (Weisman and Klerman, 1978). Similar studies making nosological distinctions were conducted up to the 1930's with their major limitations being case ascertainment was incomplete and diagnoses were taken at face value with little attention paid to validity and reliability.

Since the reliability of clinical diagnosis of personality, including many of the DSM-III-R is probably low, one must assume that the prevalence rates are not an accurate estimate of the numbers of cases of personality disorder (Goldsmith, Jacobsberg & Bell, 1989). This has particular implications, not only in the total population but also in the inpatient setting.

The epidemiological literature in psychiatry is deficient in the area of personality variation and personality disorder. Most of the studies reviewed had limited relevance to personality variation or disorder. Only the more recent literature addressed personality disorder as a main focus and those that did generally observed presence or absence of one particular disorder, making it impossible to generalize from these results.

The Sterling County study (Leighton, et al, 1962), included the study of the prevalence of symptom patterns in rural Nova Scotia which is culturally close to Newfoundland. They divided personality disorders into two categories - sociopathic and personality disorder. However, they failed to define what these two concepts meant which makes it difficult to replicate this study. They found eighteen percent of men and eleven percent of women falling into sociopathic and personality disorder categories.

The frequency of personality disorder reported by Leighton, et al. was similar to the results of the Mid-town

Manhattan study conducted by Srole, Langer, Rennie and Cornell (1962). In Srole et al.'s study, it was found that sixteen percent of those surveyed showed patterns of both neuroticism and personality disorder. A survey questionnaire method was used to collect data but it is not clear again how the types of personality disorder were defined. The study also showed that the prevalence rates of personality disorders were three times as high in low socio-economic than in the high socio-economic group. The frequencies reported by these two studies were much lower than those of this study.

Although the higher frequency in the present study is to be expected as its subjects are psychiatric patients, some of the difference may be attributed to the PDE being a possibly more sensitive screen for detecting maladaptive behaviours in their personality structures than those used by the other researchers.

Halldin (1984) studied a sample of over two thousand from the total population in Sweden and measured a twelve month prevalence of mental disorders. He reported that 0.2% of the population had psychopathy which is low compared to other epidemiological studies. Leighton, et al. (1963) explained the wide range of frequency for personality disorder in various studies as being difficulty in distinguishing personality deviations from psychoneurosis.

Helgason (1964) did a psychiatric and demographic investigation of over five thousand Icelanders. He used

Schneider's typology of personality disorders as the case finding method. In this sample of Icelanders, the life time prevalence of psychopathy was 3.65 percent for men and 3.74 percent for women.

These studies show a wide variation in the frequency of personality disorder in the general population and the types of disorder are often not in a standard format such as the DSM-III-R or ICD-9-CM. According to Widiger and Rogers (1989), the best estimate based on all available studies is 1-2% of the population in the community have personality disorder. The limitation in this estimation is it is confined to those with Borderline Personality Disorder. Using these data, it is apparent that the hospital sample in this study had about thirty times the proportion of subjects with Borderline Personality Disorder than are found in the general population.

3. Validity of findings

The validity of these findings with regard to the high rate of personality disorder diagnosed by the PDE, in this sample, can be assessed from diagnoses obtained by other means; the most obvious being the clinical discharge diagnosis. Fourteen, (21%) percent, of the total sample were diagnosed as having a personality disorder by their attending psychiatrist. However, the level of agreement was low

between the objective measure (PDE) and the clinical discharge diagnosis.

The issue of this kind of discrepancy has been raised over and over again in the literature. Livesley and Jackson (1986) examined the behavioral criteria for personality disorder and found that items relating to the different disorders showed substantial intercorrelation. A greater distinction needs to be made for items that delineate one personality disorder from another. Livesley, Reiffer, Sheldon and West (1987) found that the criteria for most Axis II diagnoses in DSM-III criteria contained items which, when ranked by clinicians, were not considered highly prototypical. They felt that elimination of these items would create a sharper distinction between diagnoses.

One possible explanation for the high frequency of PDE diagnosed personality disorders is that it is an artifact of the methodology. In considering the low levels of agreement between the frequency of personality disorder using the PDE versus clinical judgement, two issues need to be addressed. Firstly, how good an instrument is the PDE? Is it a valid and reliable measure of personality disorder? Secondly, how good is the psychiatrist's clinical judgement in the diagnosing of personality disorders? In addressing the first question, it is important to look at studies already completed. Angus and Marzaile (1988) used three instruments including the PDE for determining the presence of

Borderline Personality Disorder and found there was poor agreement between them. Since the three instruments were based on DSM-III criteria, one has to question the reliability. However, they found that the PDE was not as sensitive in screening for the presence of Borderline Personality Disorder as the Personality Disorder Questionnaire.

Loranger (1988) conducted a clinical trial and found the PDE to have good interrater reliability as well as good examiner-observer agreement in assigning Axis II diagnoses. His results were consistent with an earlier study he conducted on the original sample in 1985. Further, the test-retest reliability of the dimensional scores and the number of criteria met on each of the disorders were satisfactory. However, the test-retest reliability of Axis II diagnoses was low, but comparable to some diagnoses reported by well established instruments.

On the issue of validity, Loranger (1988) stated that in some interviews, he had the impression that "some subjects acknowledged certain traits and behaviour, but did not display them in a clinically significant way in their lives" (p.3). The subject was not required to give examples of behaviour for each response in the version of the PDE used in the investigator's study.

Loranger argues that establishing validity is difficult because it is not meaningful to validate the PDE

against diagnoses of clinicians without first establishing their reliability and validity. Construct validity was also seen as difficult because of the instruments available for comparison to the PDE. Loranger said that the PDE has certain provisional procedural validity, because it has potential for making case selection more uniform and research results on personality disorders more comparable.

Another consideration in interpreting the results is that the investigator may not have administered the PDE properly. However, the investigator was familiar with the DSM-III-R classification system and followed the protocol for training as outlined by Loranger. Prior to the commencement of the study, the investigator reliably examined a series of patients with a psychiatrist who had already been trained in the use of the instrument.

The new version of the PDE has more rigorous criteria for assessment (Loranger, 1988). In this form, the user of the instrument is able to exercise his/her subjective opinion more readily than in the initial version of the PDE which was used in this study. Loranger (1988) in the new version of the PDE, attempted to increase the accuracy of the method of case finding for personality disorder through more precise wording in questions used. Further studies using the new version PDE are necessary to establish whether or not this is the case. However, the PDE, when compared to the other existing instruments for identifying personality

disorder, appears to be at least as good a diagnostic instrument as the others that were considered when proposing to conduct the study in its initial stages.

Another explanation for the high frequency of personality disorders in this sample is the PDE assessment may have been contaminated by the presence of depressive symptoms. However, this is unlikely since each subject was given the Montgomery-Asberg Rating Scale for Depression prior to the administration of the PDE and the subjects in the sample obtained scores that were within normal limits. The Montgomery-Asberg Rating Scale for Depression has high interrater reliability and is considered to be an instrument that is very sensitive to change. It also has a high correlation with the Hamilton Rating Scale for Depression.

The second question on 'how good is the psychiatrist's clinical judgement in the diagnosing of personality disorders' is important considering the low numbers of personality disorders diagnosed by clinical judgement compared to the PDE. A possible explanation is that many clinicians dislike using the DSM-III-R, Axis II because it involves so many criteria that overlaps among the different personality disorders. Often clinicians diagnose personality disorder based on their theoretical orientation and training. It is generally agreed that the DSM-III-R, Axis II, is useful for research but time consuming and somewhat redundant for day to day clinical practice.

With no consistent method in clinical practice, it is difficult to accurately assess the presence/absence of personality disorder in the numbers of patients entering an acute care psychiatric setting as inpatients and even more difficult to assess the numbers that are seen in outpatient departments and clinician's offices. Therefore, the validity and reliability of the diagnosis is sometimes questionable since the baseline criteria for considering a diagnosis of personality disorder can vary from one clinician to another. Thus, diagnosis in clinical practice presents difficulties from a research point of view. Freeman and Gunderson (1989) felt that psychiatrists often hesitate to use the personality disorder diagnosis because the distinction between normal personality traits and their pathological extremes can seem arbitrary.

Another possibility is the psychiatrists were not specifically asked to look for presence of personality disorder as part of their role in the study and therefore may have identified traits in some of their patients but did not give an Axis II diagnosis to the patients on discharge. The decision not to ask them to specifically look for personality disorder was made because it was hoped that their diagnoses would reflect conventional clinical practice.

Hyler, Rieder, Williams, Spitzer, Lyons and Hender (1989) examined the relationship between clinicians' diagnoses of personality disorder and self-report diagnoses

of personality disorders using the Personality Disorder Questionnaire in 552 patients. Results showed general lack of agreement between clinical and self-report diagnoses of DSM-III personality disorder diagnoses. The highest level of agreement was for Borderline Personality Disorder (Kappa = 0.46) which is not high.

Since discrepancies seem to exist between the objective measures of personality disorder (eg. the PDE and the PDQ) with clinical diagnoses, it might be important to investigate the source of those differences in an attempt to improve reliability. Linked to this, are the difficulties in effectively using DSM-III criteria for personality disorders. Widiger, Frances, Spitzer and Williams (1988) evaluated the multiaxial system of DSM-III and found that while the multiaxial evaluation is used to ensure attention is given to personality disorders, the categorical approach has overlap and redundancy among diagnoses. They further state that even though the polythetic system was adapted for DSM-III-R, the number of items and cut off points are inconsistent across diagnoses. In using clinical judgement, "specific behaviors are only fallible indicators of a personality disposition because any single behaviour can
have multiple causes and represent multiple dispositions" (Ibid., p. 788).

Standage (1989) in reviewing structured interviews for diagnosing personality disorder claimed that the poor

reliability of psychiatric diagnosis was due to three factors: "changes in the behaviour of the patient when assessed by two or more psychiatrists on different occasions; biases introduced by the psychiatrists themselves; and deficiencies in the classifications they used" (p. 906). Because of these difficulties, structured interviews were developed. However, the reliability of the diagnosis of personality disorder has always been lower than that of other psychiatric conditions. Walton and Presly (1973) stated that psychiatrists found it difficult to agree on the diagnosis of personality disorder when they used a categorical system of diagnosing. Psychiatrists did diagnose more reliably when using the dimensional approach (Presly and Walton, 1973). For the psychiatrist, structured interviews are uncomfortable compared to the familiar clinical evaluation (Standage, 1989). If such interviews are to be widely accepted and used, then the psychiatrist needs to be convinced of their diagnostic superiority.

Tyrer (1990) discussed the advantage as well of using an informant where possible to validate the diagnosis of personality disorder. A decision was made not to use independent informants in the present study. A prelinimary review indicated that only a proportion of the sample would have informants, for social and geographical reasons, and this would obviously lead to a sampling bias. Widiger and Rogers (1989) felt that personality disorder should be

evaluated in every patient including those seen in non-psychiatric settings with the rationale that these personality traits will often affect the presentation, course and treatment of an Axis I psychiatric condition and non-psychiatric conditions. It would be difficult to, in all instances, employ Tyrer's recommendation of always gathering independent information if Widiger's and Roger's suggestion was followed. Nevertheless, the future of personality disorder assessment may develop in the direction of achieving a synthesis between reports of the patient and of independent informants.

There appears to be a margin that still separates research from practice and it is crucial to try to assimilate strategies for linking the two in a way that would be constructive and useful for the health care team and the patient.

4. General implications of findings

In first discussing the implications of the findings in this study, one has to consider what the sample represents. The sample of patients obtained was probably representative of depressed psychiatric inpatients. There was no reason to suspect the sampling in time introduced a bias; nor were there any basic differences in the characteristics of the subjects from each unit. Further, the

patients who were included had to meet specific criteria measures of depression.

Considering the results in this study as a whole, subjects with personality disorder had certain characteristics different from those with normal personality. The personality disorder subjects met many more behavioral criteria than their counterparts with normal personality. The subjects who met the criteria for personality disorder also had many traits of other personality disorders or met the criteria for more than one disorder. There were also differences as noted by measures such as the Socialization Scale of the California Psychological Inventory and the Eysenck Personality Inventory.

One question that arises from the findings is what does this mean in the context of hospitalization for depression? There were no differences between the personality disorder and the normal personality subjects in the number of past admissions to hospital, no differences in current and past levels of functioning, no differences in functioning in a social setting or at work. However, all subjects reported problems in these areas. It is possible, based on this finding that personality disorders are admitted to hospital because they report symptoms of depression in the same way as those with normal personality. However, personality disorders were admitted to hospital at a younger age than those with normal personality. A possible

explanation is those subjects with personality disorder reported more life situations related to undesirable events involving loss (eg. death, divorce) than those with normal personality. They also reported more life events in the areas of employment and health. In addition, the personality disorder subjects in this study were more neurotic, and had lower role-taking ability than the normal personality subjects. All these factors, in addition to the symptoms of depression may be a reason why the personality disorder subjects, in this sample were admitted to hospital at an earlier age than those subjects with normal personality. The results suggest that an investigation of why depressed patients are admitted to hospital is an important area for future study.

The most common personality disorder identified in this sample was that of Borderline Personality Disorder. There was an overlap of symptoms with other personality disorders causing many of the subjects with Borderline Personality Disorder, to be identified as having other personality disorders. This study was not designed to examine why personality disorders, especially those with Borderline Personality Disorder get admitted to hospital, nevertheless, some findings are pertinent to this question, and are worthy of closer examination. According the Zanarini, Gunderson, Marino, Schwartz and Frankenburg (1989), the majority of Borderline Personality Disorder patients had

been traumatized in some way. For example, the Borderlines were significantly more likely to have been sexually or physically abused and also more likely to have reported a history of neglect. In their sample, 58 percent reported a childhood history of physical or sexual abuse or both. This was not formally assessed in the present study, but such a trend is suspected from the interviews, and is worthy of further study.

C. Relationships between Personality Disorder and depression

Assuming a real relationship exists between personality disorder and depression as measured by the PDE in hospitalized patients, what is the nature of the association? One possibility is personality disorder contributes to the development of depression. Personality disorder patients usually have problems in functioning, both on an intimate and occupational level at an early age. This may be linked to some of the undesirable events that they experience such as divorce and unemployment. Subsequently, when these events occur, they seem to be less able to cope because of their maladaptive behaviour and therefore they become stressed and develop symptoms of depression more easily than those with normal personalities and better coping skills. Also, their inability to be able to interpret another's impression of them, their poorer quality of life in general and of home life, and more problematic behaviour, can result in problems

in relationships thus resulting in losses for those subjects with personality disorders and it can contribute to the development of depressive symptoms.

It was thought at the initiation of the study, that personality disorders would be found more frequently to experience Adjustment Disorder Depression and/or depression related to some secondary source such as drug or alcohol dependency. However, the frequencies of personality disorders in Adjustment Disorder Depression, Secondary Depression and Major Depressive Disorder groups did not differ significantly. Because patients with Adjustment Disorder Depression demonstrate an inability to cope with life stressors, it was expected that the frequency of personality disorder would be greater in this group than in the Major Depressive Disorder group. Alnaes and Torgerson, (1988) observed the converse and said it was expected since external stressors more than internal pathology cause adjustment disorders.

The Secondary Depression group was also expected to have a higher frequency of personality disorders because of maladaptive coping behaviors such as drug and alcohol abuse in many cases. In this study, it was clear that personality disorders do develop Adjustment Disorder Depression and Secondary Depression, but not significantly more frequently than subjects with Major Depressive Disorder.

The accuracy of the type of depression recorded as the discharge diagnosis might explain the even distribution across depressed groups. However, the clinical discharge diagnosis, for each subject studied, was determined by consensus at a discharge planning meeting held routinely on the Psychiatric units of both hospitals.

It is possible that those personality disordered subjects who develop Major Depressive Disorder may have a genetic predisposition. The same might be true for those personality disorders with secondary depression. For example, a person with alcohol dependency may have had a parent who had the same problem but may also have learned the maladaptive coping mechanisms that eventually led to depression. Early childhood may play a part in resulting depression and in the development of personality disorder.

Much of the literature connecting personality disorders to depression focused specifically on Borderline Personality Disorder only. Rippetoe, Alarcon, and Walter-Ryan (1986) attempted to determine if Borderline Personality Disorder and affective disorders overlapped and if Borderline Personality Disorder characteristics were differentially associated with specific Axis I, DSM-III diagnoses. The depressed patients in the study (regardless of type of depression) showed a higher rate of boredom and emptiness, a higher incidence of suicide attempts and greater frequency of dependency than non-depressed Borderline Personality

Disorders. This indicates that when Borderline Personality Disorders are depressed, they have more difficulty in functioning and it is possible that the maladaptive behaviours may become more evident during times of depression.

Goldsmith, Jacobsberg and Bell (1989) stated that "in clinical practice, the diagnosis of a personality disorder on Axis II is particularly important because it may be both in and of itself an indication for treatment and/or it may alter the presentation, course and treatment of either an Axis I clinical syndrome (eg. major depression, anxiety disorders) or of a psychiatric symptom (eg. suicidality, noncompliance)" (p. 2-3). Issues to consider surrounding this are the problems of defining personality disorder and problems in identifying the presence of depression. The boundary between personality and personality disorder is often hard to distinguish. Also, the presence of Axis I pathology may cloud the picture for assessing Axis II pathology. However, even with these problems, it remains very important to make accurate assessment for the presence or absence of personality disorder since this information may be of use in assessing suicidal tendencies or in deciding treatment strategies (Ibid., 1989).

Worthy of discussion is how do those subjects with personality disorder differ from those with normal personality in each of the three categories of depression

investigated? Even though many more differences existed in looking at personality disorders irrespective of depressive disorder than when the investigator began to look at within group differences for each depressive disorder, it is worth noting that based on this sample, the Personality Disorder/ Normal Personality Subjects in the Major Depressive Disorder group were different characteristically as evidenced by their past level of functioning, which was worse for the personality disorder subjects, in their role taking ability which was much lower for the personality disorders, and in their occupational status which was lower socio-economically. The personality disorder subjects also reported a greater number of undesirable life events and health related life events than the normal personality subjects. These findings may not be conclusive enough to make personality disorders within the major depressive disorder group distinctly different characteristically from those with normal personalities. However, looking at these behavioral characteristics, one might suspect they would affect treatment and prognosis as a result of the differences in the variables.

Within the Adjustment Disorder Depression group, there were also some differences worth discussing between the personality disorder subjects and the normal personality subjects. The extraversion dimension of the Eysenck Personality Inventory was significantly lower for the

personality disorder subjects. This is possibly explained by the fact that this particular depressive group had more Cluster A and C types of personality disorder which might be expected to be more introverted. Life events were also significantly different. Similar to the Major Depressive Disorder group, the personality disorder subjects with Adjustment Disorder Depression also reported more health related life events. They were different from the Major Depressive Disorder group, in that this group had more exit life events and marital life events than those subjects with Adjustment Disorder Depression and normal personality. These differences in the variables can influence response to treatment and may make therapy more challenging for personality disorder subjects with adjustment depression. The presence of these characteristics could indicate how well the patient will do once they are admitted to an acute care psychiatric unit as well as when they resume day-to-day functioning.

Personality disorders in the secondary depression group were different from those without personality disorder on the Hamilton Rating Scale for Depression with the personality disorders assessed as the more depressed even though neither group could be considered moderately depressed using this measure. They also differed on the neuroticism dimension of the EPI, again with the personality disorders

having a much higher score than the normal personality subjects. As a generality, both the normal personality and the personality disorder subjects in this group had poor past histories as well as very low role taking ability indicated by low socialization scores. It is particularly difficult to draw any conclusions with this secondary depression group because there was only a small number of normal personalities in it.

Worthy of note and probably further investigation is the fact that there was a significant difference in the alexithymia total score for this group of secondary depressions with the personality disorders having a significantly higher score, indicating a possible exaggerated response or hyperlexithymia. This finding requires further investigation in a group of secondary depressions with a larger proportion of normal subjects.

Some researchers have found alexithymia to be greatly influenced by environmental factors and the question of the role of alcohol and drug abuse might be elucidated (Lolas, de la Parra, Aronsohn, et al., 1980). This indicates that it would be important to study this group since the depression has occurred as a consequence of some other disorder such as alcohol addiction. It would be of value to know if exaggerated response, as indicated by an alexithymia scale, is a characteristic of only the personality disorder secondary depression patients or of the group as a whole.

Test-retest for reliability would help resolve the issue of whether alexithymia is characteristic of a state or trait.

There were very little differences in looking at personality disorder across the depressed groups. There were no personality disorder characteristics that were specific to a particular type of depression with the exception of the personality disorders with Secondary Depression having more past admissions to hospital than those with Adjustment Disorder Depression. This is a finding that might be expected because of the nature of the depression types. This lack of specificity of personality disorder to depressive type is indicative of a general liability rather than a specific association.

From these findings, it can be concluded that patients with personality disorders differ very little from one another irrespective of the type of depression. However, they do differ in some aspects, from subjects with normal personality within each type of depression. This might explain why the health care team has more difficulty dealing with personality disorders who develop depression.

An alternative explanation of this finding is that the association between personality disorder and depression is attributable to depression in childhood or adolescence, which may go unidentified or perceived as behavioural problems. This depressive episode may have an effect upon the child's personality development leading to personality

disorder. Depression, over the past decade, has become a major research area in child psychiatry (Harrington, 1989). In researching childhood depressions, it seems important to look for related events and stressors. It has been suggested that stressors involving loss and life events are associated not only with depressive conditions but also other child psychiatric disorders such as conduct disorders and anxiety states (Goodyer, Wright and Altham, 1988).

An overlap in psychopathology between behavioural problems and depressive symptoms was reported in a retrospective study of adolescents with a diagnosis of major depression and some other psychiatric disorder. It was reported that in every case, depression was preceded by the other disorder (Keller, Beardslee, Lavori, Wunder, and Samuelson, 1988). In addition, Kovacs, Paulauskas, Gatsonis, and Richards (1988) reported that conduct disorder persisted and did not remit with the depression and it was also associated with long-term behavioural problems.

In further looking at the relationship between personality disorder and depression, it is possible that an association exists between the two, but neither causes the other. It is possible that factors such as losses and abuse in childhood may lead to both. For personality disorder, the maladaptive style of coping with day to day events may develop. For depression, specific symptoms that activates recapitulation of previous experiences may occur. Zanarini,

Gunderson, Marino, Swartz, and Frankenburg (1989) found that broken homes, absence of male caretaker for more than three years, abuse and neglect were in childhood histories of those developing a depressive disorder (dysthymia) with a concurrent personality disorder. A study such as theirs provides limited support for such a hypothesis.

D. Borderline Personality Disorder as identified by the PDE

Since 68% of the personality disorders as identified by the PDE, had Borderline Personality Disorder, this will be discussed separately from Personality Disorders in general. The post-hoc analysis of this specific diagnosis was done because of the apparently high proportion of Borderline Personality Disorder subjects in this study. These hospitalized Borderline Personality Disorder subjects not only differed from those with normal personalities but there were also differences from those with other personality disorders.

1. Characteristics of Borderline Personality Disorder on other variables

The Borderline Personality Disorder subjects were, for the most part similar to the personality disorder group as a whole when compared to the normal personality group. This might be expected since they comprised 68% of this group. The Borderline Personality Disorder subjects had significant differences on the same variables as the

personality disorders in general, when compared to the normal personality group, with the exception of a significantly higher score on the Alexithymia A scale. This scale elicits a person's response to particular emotional-evoking situations. A high score on this scale might be viewed as extremes of response or overreaction to the event. This might suggest that Borderline Personality Disorder subjects respond in a more dramatic, emotional way than those with normal personality.

Nurnberg, Hurt, Feldman and Suh (1988) used the Combined Criteria Instrument and found that five of the seventeen items had predictive power in distinguishing Borderline Personality Disorder from normal personality. They were: 1) Impulsivity, 2) Interpersonal relationships, 3) Identity disturbance, 4) Chronic emptiness, boredom, loneliness, 5) Acting out. The Personality Disorder Examination used in the present study, contained questions for each of these categories. While they were not used as separate discriminators, each of the items were included in the overall identification of the Borderline Personality Disorder.

2. Characteristics of Borderline Personality Disorder compared to other personality disorders

A comparison between the Borderline Personality Disorder subjects and the other personality disorder subjects was made. The length of stay in hospital was found to be

longer for the Borderline Personality Disorder subjects than those with other personality disorders. This finding has implications for hospital cost, for the overall treatment approach and for management. The Borderline group was found to be more neurotic and currently functioning at a lower level than the other personality disorders. This means that they have a greater degree of disability and indicates that maybe this is a factor in why they stay in hospital for a longer period of time. The Borderline group has had higher alexithymia scores on subscale C than the other Personality Disorders. This subscale requires the subject to evaluate behaviours that describe what they consider themselves to be. The result suggests that this group viewed their own behaviours as more emotionally extreme than other personality disorders. This may explain why such patients are more readily admitted to hospital and also why they are discharged later.

Modestin and Vieliger (1989) did a follow up study of Borderline Personality Disorder versus other personality disorders approximately four to six years after initial contact with the hospital system. Both Borderline Personality Disorders and other personality disorders seemed to function, in their study, at a comparable level. However, the Borderline Personality Disorders experienced more frequent hospitalizations for shorter durations. This differs from the present study in that Borderline Personality

Disorders had longer stays in hospital but were no more frequently admitted. This difference may be due to the way in which health care is organized in the U.S.A. compared to Canada. Modestin and Vieliger (1989) found also that Borderline Personality Disorders were more conflict-ridden, labile and of a high emotional intensity without the corresponding ability to express it, than were the other personality disorders. This might explain why they impulsively attempt suicide, get admitted to hospital and become involved in treatment programs that require longer hospitalizations.

3. Validity of findings

In examining this distinct group of labelled Borderline Personality Disorders, the investigator questions whether or not the PDE is actually measuring what is traditionally considered to be Borderline Personality Disorder. Even though 68% of the personality disorders identified had a diagnosis of Borderline Personality Disorder, less than one-third had this as a single diagnosis or were "pure borderlines". This finding may be due to the overlapping of criteria in the DSM-III-R, Axis II. Kroll et al. (1981) stated that Borderline Personality Disorder often cannot be distinguished from other personality disorders, particularly those of the Cluster B type. Based on this, one

might expect there to be a low frequency of subjects with Borderline Personality Disorder only as an Axis II diagnosis.

A possible explanation for the high frequency of Borderline Personality Disorder might be an artifact of the method. It is possible that the DSM-III-R criteria might be too broad.

It has been widely discussed in the literature as to what is meant by Borderline and whether or not it means the same thing in different cultures. There were three decisions made in defining the contours of Borderline Personality Disorder for DSM-III. First, some of the subtle forms of cognitive disturbances which were long considered part of borderline psychopathology were placed in Schizotypal Personality Disorder and others in Histrionic Personality Disorder. Second, Borderline Personality Disorder was defined by many affect-laden criteria. Third, brief psychotic phenomena were eliminated as a symptom of Borderline Personality Disorder (Kroll and Ogata, 1987). These differences in the defining characteristics of the borderline changes the total picture of Borderline Personality Disorder. Therefore, those patients identified as Borderline Personality Disorder, according to DSM-III or DSM-III-R criteria, do not always fit the clinical picture of Borderline Personality Disorder in the traditional sense but it does identify a group of patients with common characteristics. The possibility remains that it could be

evidence of general severity of the Cluster B personality disorders and is not in itself a specific diagnostic category of personality disorder. If this was so, then the Borderline Personality Disorder would be expected to be more abnormal than other personality disorders on most of the measures of dysfunction. This was not so.

The explanation that the high frequency of Borderline Personality Disorder may be a manifestation of the depression has already been discussed in relation to Personality Disorders in general and there is nothing specific to add in relation to Borderline Personality Disorder.

4. Relationship of Borderline Personality Disorder to Depression

While many studies attempt to suggest that Borderline Personality Disorder is an atypical form of depressive disorder, there is no substantial research to firmly support this view (Zanarini, Gunderson, and Frankenburg, 1989). The results of the present study suggests that the majority of patients with personality disorder admitted to acute care psychiatric units are admitted with typical depression. Rather than Borderline Personality Disorder being an atypical form of depression, it is more likely that Borderline Personality Disorders, and possibly personality disorders in general, are more

susceptible to developing depression because of their general inability to cope and deal with stresses in their lives. However, those who believe in the primacy of the affective disorder and that Borderline Personality Disorder is a forme fruste of this, tend to define atypical depression in a way that makes their postulate difficult to disprove.

The vulnerability of Borderline Personality Disorder patients to depression is widely accepted, but the presentation of the phenomenon of depression is controversial (Soloff, George, Nathan, Schultz, 1987). One school of thought suggests that borderlines become depressed in response to a real or threatened object loss and that the depression results from a vulnerable character matrix in response to specific stressors (Ibid., 1987). However, biological psychiatrists see depression at the core with conditioned maladaptive behaviours resulting from it. The borderline personality is then seen as secondary to the dysregulation of affect that directly causes depression (Liebowitz and Klein, 1979).

Pope, Jones, Herdson, Cohen and Gunderson (1983) in a retrospective study of inpatients, concluded that most of their patients did not display borderline affective disorder. What they observed was that some of their patients showed symptoms of Borderline Personality Disorder and Major Depressive Disorder simultaneously but some patients also

displayed borderline symptoms in the absence of affective symptoms.

Zanarini, Gunderson and Frankenburg (1989) compared fifty outpatients with Borderline Personality Disorder with twenty-nine Antisocial Personality Disorder. Findings showed that the Borderline Personality Disorder patients were significantly older and came from a lower socioeconomic background. Relevant to the relationship with depression is the fact that at some point in their lives, 100 percent of the Borderlines had met the criteria for an affective disorder. All the Borderline Personality Disorders met the criteria for dysthymic disorder; 80 percent met criteria for Major Depression; no Borderline Personality Disorder had a bipolar disorder.

Perry and Cooper (1985), the only other investigators to assess prevalence of Major Depression blind to the clinical diagnosis and using a structured interview found that 87 percent of Borderline Personality Disorders had a major depression. These findings are somewhat higher than those of Zanarini et al.

These studies indicate that there is a strong relationship between Borderline Personality Disorder and unipolar depressive disorders. This might be partly explained by the nature of the symptoms used in DSM-III as criteria for measuring Borderline Personality Disorder. For example, suicidal threats, disturbances of affect, and poor

reality testing are characteristics found in depression as well as Borderline Personality Disorder.

Zanarini et al. (1989) also found high rates of both substance use disorders and unipolar affective disorders suggesting an interrelationship. In the present study, those Borderlines with substance abuse were not assessed as being depressed using the Hamilton Rating Scale for Depression even though they considered themselves depressed as demonstrated by the Beck Depression Inventory.

A common misconception is that personality disorders are more psychosocial in origin while Axis I diagnoses are more biological when in actuality all these conditions have biological, psychological, social and situational components (Marin, DeMeo, Frances, Kocsis and Mann, 1989). These authors reviewed the literature and found that 61 percent of Borderline Personality Disorders have abnormal dexamethasone suppression tests and forty-six percent abnormal TSH, suggesting a biological cause for this type of personality disorder. As well, this could be due to a large number of the Borderline Personality Disorders being also depressed. However, abnormal EEG and evoked potentials have been found in Borderline Personality Disorders and Antisocial Personality disorders suggesting a biological component for these personality disorders. With concurrent Axis II disorders existing in a large percentage, it suggests a link between depressive disorder and personality disorders.

A study by Joffe and Regan (1989) links personality disorder to depression in a different way. It was the first study to suggest that patients with primary depressive disorder who develop borderline personality traits as a manifestation of depression are more likely to make a suicide attempt. Of their thirty-seven patients who were positive for Borderline Personality Disorder when depressed, only ten retained the diagnosis in the remitted phase. This suggests that one should be careful to establish the temporal stability of symptoms when diagnosing a personality disorder. In the present study, the subjects were screened for depressive symptoms and the PDE was not administered until the symptoms had remitted.

5. Implications of findings

Whether or not this study, using the PDE, actually identified a group that had Borderline Personality Disorder in the traditional sense, is possibly irrelevant. There is no doubt that this group is distinctly different from the group of those subjects with other personality disorders as evidenced by the outcome measures of the variables. The important finding in this study is that there is a high proportion of psychiatric hospitalized patients with a diagnosis of Borderline Personality Disorder as measured by the Personality Disorder Examination. This has implications for overall clinical management and medical treatment. This

is a distinct group that behaved differently from normal personality subjects as well as subjects with other personality disorders. It would seem that further investigation of this group of PDE identified Borderline Personality Disorders is desirable, particularly where these patients are admitted to hospital. Kroll and Ogata (1987) felt that "Borderline Personality Disorder is a heterogeneous group of disorders, linked together by several common interpersonal, cognitive and emotional styles" (p. 123). They further identified a group of Borderline Personality Disorder subjects who have severe borderline features without evidence of depression, but who often have had childhood experiences of emotional and physical abuse. They found that those with Borderline Personality Disorder often had childhood experiences of emotional and physical/sexual abuse, but developed depression as well. They felt that normal depressives do not present in the same way as Borderline Personality Disorder depressives do since they rarely self-mutilate, rarely are manipulative and dramatic, rarely the centre of ward problems and are more compliant with treatment (Ibid., 1987). In this study, evidence of sexual and/or physical abuse in the Borderline Personality Disorder was not systematically assessed because this part of the study was a post hoc investigation. However, 80% of the subjects who attempted suicide were Borderline Personality Disorder. This may be another reason

why Patients with Borderline Personality Disorder get admitted to hospital.

A cluster analysis of the PDE scores for the Borderline Personality Disorder might reveal common elements. Since the present study focused on Personality Disorder in general, it was decided not to analyze scores for individual personality disorders. The fact that there were multiple diagnoses for personality disorder using DSM-III-R criteria suggests that a dimensional approach might be better than the categorical approach for defining personality disorders because there is in many cases diagnostic overlap despite the categorical approach.

E. Negative Findings

1. Life Events

It was expected that Life Events as reported by the subjects would be different for those with personality disorder from those with normal personality. This was true only for the reporting of undesirable, marital and health related events. It was thought that since patients with personality disorder have problems with social and/or occupational functioning that many more life events causing stress in general would be reported, but this was not the case. A possible explanation is those people with normal personality recalled the events of the previous months as being stressful more than usual because they were feeling

less able to cope because of their depression. Another view is that maybe personality disorder subjects reported their life events with less exaggeration because of decreased energy levels caused by their depression. It would be useful to investigate this further and suggestion will be made in a later section.

2. Interaction between Stressors and Personality Disorder

It was anticipated that the types and intensity of stressors would be described as being greater by the subjects with personality disorder versus those who had normal personalities. However, using the DSM-III-R Stress Scale, all subjects could be considered as moderately stressed. A possible reason why this exaggerated response did not occur is that the sample included personality disorders from all three clusters of DSM-III-R. While the majority had Cluster B diagnoses, the fact that a number had Cluster A and C diagnoses may have affected the results. One of the difficulties in identifying personality disorders is that they are characteristically different from one another as described by their groupings in Clusters A, B, C. This would affect any interactions between stress and the personality disorder. The numbers of subjects that were distinctly in Clusters A and C without overlap in Cluster B were too small for an analysis in this respect.

3. Alexithymia

It was anticipated that subjects with personality disorder would have higher alexithymia scores than those with normal personality since they might give exaggerated responses to emotionally charged situations. This should have been especially true for the Cluster B, dramatic, erratic, emotional subjects. This was not so. However, the mixture of DSM-III-R diagnoses from all clusters may have affected the overall response results since there were a limited number of "pure" Cluster B subjects. The fact that Borderline Personality Disorders had higher scores when compared to normal personality subjects would support this.

F. Criticisms of the study

One criticism of this study is that it uses a restricted sample consisting of hospitalized patients from General Hospital Psychiatric Units with symptoms of depression. Given these restrictions, generalizations from the findings to personality disorders in general should be made with caution. However, the findings, given these constraints, have a practical application in their relevance of personality disorder to hospital clinical practice.

A more systematic method of arriving at a clinical diagnosis could have been employed, such as the Present State

Examination, but the methodology was purposely designed to conform to conventional psychiatric clinical practice.

The study could be expanded by seeing patients in the psychiatric hospital as well those in general hospitals and by including patients with diagnoses other than depression. This would provide information about the relationship between subjects with personality disorder and other Axis I diagnoses.

The reason why each subject was admitted to hospital would have provided useful information. Since the investigator was assessing characteristics of the subjects, it was not a centre of interest. However, there is sufficient information from this study to indicate that personality disorder may be an important determinant of the decision to admit and one that is probably not recognized by the psychiatrist.

G. Suggestions for further research and conclusions

This study has many aspects to it, each of which suggests areas for further research.

1. Suggestions

Some of the more striking of the areas for future research are:

a. This work should be replicated using the revised version of the PDE. This would enable the

contribution of the investigator's subjective opinion to be part of the assessment.

Other additions to such a study, already discussed are: (i) structured interview to ascertain the Axis I diagnosis, making comparisons with the diagnosis arrived at by conventional clinical methods possible.

(ii) The use of a collateral account of the patient's premorbid personality.

(iii) systematic collection of life events, perhaps using a likert scale to evaluate their severity.

b. The relationship between personality disorder and admission to hospital with depression has been discussed and is of obvious practical importance. There are the overt reasons for admitting patients for treatment which are acknowledged in psychiatric texts, i.e. depth of depression, suicidal ideation, and treatment resistance. This study raises questions about the possibility of other unacknowledged reasons such as apparent unpredictability, the strength of the communication of the depressed affect, and absence of significant others, as being factors for admission. This could be further investigated.

c. A comparison between diagnoses arrived at by the PDE categorical approach and a typological one, for example, Schneider's typologies, would provide information that would enable the value of the two approaches to be compared.

d. An investigation of one particular category of depression, particularly the Adjustment Disorder Depression, might throw some light on the causes of this condition. In particular, an additional group of normal subjects who had never had Adjustment Disorder Depression would enable comparisons to be made not only between Adjustment Disorder Depression with Personality Disorder and without, but it would enable the comparison to be made between the Adjustment Disorder Depression group with normal personality and those normal personalities without Adjustment Disorder Depression. Perhaps of even more importance would be the ways in which the two groups of Adjustment Disorder Depression resemble one another compared to the normal subjects without Adjustment Disorder Depression.

e. The findings of the alexithymia scale might be more conclusive if one were to use Sifneos's method of examination. The number of alexithymia individuals may be underestimated using analogue versions. It is thought that maybe some personality disorder subjects might be hyperlexithymic particularly those with a Cluster B diagnosis. In a future study, the Toronto Alexithymia Scale might be considered, since the authors claim it has internal consistency, good test-retest reliability, a stable factor structure as well as construct and criterion validity Taylor, Bajby, Ryan and Parker (1990). If this is so, then it could provide a comparison with the analogue format. Since the

concept of alexithymia is still relatively new, further research as to its relevance to Personality Disorder, is indicated.

f. It would be useful to have a stress rating scale in future assessments of stress that takes account of both the objective attributes of the stressor and the subjective meaning that it has for the individual.

g. The Socialization Scale (SO Scale) seems to be a powerful tool in screening for presence of personality disorder. Since the SO Scale is a quick screen, it would be a useful tool to incorporate in a future study investigating the characteristics of people with personality disorder. Based on this study and previous investigations, the Socialization Scale is a useful dimensional predictor of personality disorders, particularly, Cluster B personality disorders (Smith, 1982, Standage, et al., 1984, Standage, Smith, Norman, 1988).

i. Even though mean scores for depression on both the Hamilton Rating Scale for Depression and the Beck Depression Inventory were high, there was a negative correlation between them. Since this warrants further investigation and has implications for treatment and treatment response, both scales could be used in a future study of personality disorder.

2. Conclusions

In this study, depressed patients with personality disorder were compared to those depressed patients with normal personalities. In the initial part of the study, the differences were observed in a more global way (eg. presence of personality disorder in a depressed population). Later, the data were divided into many components with each component being used to differentiate characteristics that made personality disorders different from normal personalities.

Particular attention was paid to Borderline Personality Disorder which was the subject of a post-hoc analysis, because of the unexpectedly large contribution that it made to the findings.

In the discussion, the investigator has discussed the implications of the study at a global level. In addition, specific results have been highlighted in recommending future research. From the findings for the population studied, it is clear that personality disorders are different when depressed from those with normal personalities. Personality disorders have differing responses to many measures that will affect how they behave and respond in the course of treatment.

Because of the multi-faceted outcome findings, it is possible to take this research in a number of different

directions in the future with interesting and useful recommendations for method of approach.

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APPENDIX A

September 21, 1988

Dear Dr.

The discharge diagnosis I have recorded for your patient in DSM-III-R terminology for Axis I and II is given below. I would be grateful if you would review the diagnosis and ammend it if it is incorrect. As it is more than four weeks since the patient was discharged from hospital, you may have revised the diagnosis. If so, would you please note that change also. Please return this letter to me even if no ammendment is necessary.

Thank you.

Yours sincerely,

Deborah Smith

Patient Name:

	Given Discharge Dx	Ammended Discharge Dx
Axis I	_____	_____
	_____	_____
Axis II	_____	_____

APPENDIX B

For each question make a mark on the line that most closely describes how you feel.

EXAMPLE: How do you feel when you see the colour "blue"?

extremely good ——— **Extremely bad**

☐☐☐ 1. When you are upset, do you like to take action or do you prefer to day dream?

always take action ——— always daydream

☐☐☐ 2. How would you feel if a policeman arrested you for a crime you did not commit?

extremely angry ——— not angry

☐☐☐ 3. How do you feel if someone insulted you?

extremely hurt ——— not hurt

☐☐☐ 4. How do you feel if someone made a false accusation about you?

extremely angry ——— not angry

☐☐☐ 5. How would you feel if you heard a suspicious noise while you were all alone in your house at night?

extremely frightened ——— not frightened

☐☐☐ 6. How would you feel if you had an emergency and tried to make a telephone call but the line was continually busy?

extremely annoyed ——— not annoyed

7. How would you feel is someone cut you off in heavy traffic?

extremely angry ——— not angry

8. How would you feel if someone laughed at you?

extremely unhappy ——— not unhappy

9. How would you feel if you saw a truck coming at you at 90 mph?

extremely frightened ——— not frightened

10. How would you feel if someone called you a coward?

extremely angry ——— not angry

11. How would you feel if someone called you a thief?

extremely angry ——— not angry

12. How would you feel if someone complimented you?

extremely happy ——— not happy

13. How would you feel is someone said you are the best?

extremely happy ——— not happy

14. How would you feel if someone whom you loved died suddenly?

extremely unhappy ——— not unhappy

15. How would you feel if someone tried to attack you with a knife?

extremely frightened ——— not frightened

16. How would you feel if someone pulled a gun on you?

extremely frightened ——— not frightened

17. How do you feel when you are hungry?

extremely irritable ——— not irritable

18. How do you feel when you are sick?

extremely irritable ——— not irritable

19. Have you ever assaulted someone?

often ——— never

20. Have you ever felt so frustrated that you developed a headache?

often ——— never

21. Have you ever had a temper tantrum?

often ——— never

22. Did you ever slam the door or bang the telephone?

often ——— never

23. Did you ever rebel by refusing to cooperate?

often ——— never

24. Do you ever argue, shout, scream?

often ——— never

25. Have you ever felt angry at the world?

often ——— never

26. Have you ever felt suspicious of others?

often ——— never

27. Have you ever felt victimized?

often ——— never

28. Have you experienced any of the following:

a. Resentment

often ——— never

b. Fear

often ——— never

c. Tension

often ——— never

d. Panic

often ——— never

e. Joy

often ——— never

f. Happiness

often ——— never

g. Anger

often ——— never

h. Excitement

often ——— never

i. Anxiety

often ——— never

j. Apprehension

often ——— never

k. Frustration

often ——— never

l. Loneliness

often ——— never

m. Rage

often ——— never

n. Hostility

often ——— never

o. Sadness

often ——— never

p. Love

often ——— never

q. Amusement

often ——— never

r. Annoyance

often ——— never

s. Helplessness

often ——— never

t. Irritability

often ——— never

u. Hopelessness

often ——— never

v. Emptiness

often ——— never

Add any other feelings:

29. Do you consider yourself to be:

a. Emotional

most of the time ——— never

b. Calm

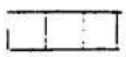
most of the time ——— never

c. Impulsive

most of the time ——— never

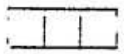
d. Quiet

most of the time ——— never



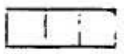
e. Nervous

most of the time ——— never



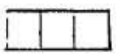
f. Relaxed

most of the time ——— never



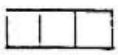
g. Quick Tempered

most of the time ——— never



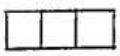
h. Rational

most of the time ——— never



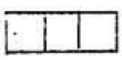
i. Angry

most of the time ——— never



j. Sad

most of the time ——— never



k. Happy

most of the time ——— never

APPENDIX C

FACULTY OF MEDICINE
MEMORIAL UNIVERSITY OF NEWFOUNDLAND
ST. JOHN'S, NEWFOUNDLAND, A1B 3V6

CONSENT TO PARTICIPATE IN BIO-MEDICAL RESEARCH

INVESTIGATOR(S): Deborah Smith

You have been asked to participate in a research study. Participation in this study is entirely voluntary. You may decide not to participate or may withdraw from the study at any time without affecting your normal treatment.

Confidentiality of information concerning participants will be maintained by the investigator. The investigator will be available during the study at all times should you have any problems or questions about the study.

The purpose of this study is to find out how easy it is for psychiatric patients with different problems to express their emotions. As part of the study, you will be asked to complete a series of questions which will require you to describe how you see yourself in various life situations. You will be asked a series of questions by the investigator.

The length of time required to complete the total interview will be approximately 2 hours.

Participation in this study may help you to understand yourself better than you do at present.

I, _____, the undersigned, agree to my participation in the research study described above.

Any questions have been answered and I understand what is involved in the study. I realize that participation is voluntary and that there is no guarantee that I will benefit from my involvement. I acknowledge that a copy of this form has been offered to me.

_____ _____
(Signature of Participant) (Date)

_____
(Signature of Witness)

To be signed by the investigator:

To the best of my ability I have fully explained to the subject the nature of this research study. I have invited questions and provided answers. I believe that the subject fully understands the implications and voluntary nature of the study.

_____ _____
(Signature of Investigator) (Date)

Phone Number: _____

APPENDIX D

Table 1
Tabulation of Personality Disorder/Normal Personality Responses to Life Events

Life Event	(n = 44) P.D.	(n = 23) Normal
1. Major financial problems	23	6
2. Unemployment	19	3
3. Increases arguments with spouse	19	3
4. Family member has serious illness	13	1
5. Death of close family member	11	6
6. Serious physical illness	9	2
7. Changes at work	9	3
8. Separation	8	5
9. Move	7	4
10.Difficulties with children	6	4
11.Stress at school	6	2
12.Physical Abuse	5	0
13.Arguments with family members	5	2
14.Divorce	4	0
15.Criminal charges	4	1
16.Few friends	4	0
17.Family member has legal problems	3	2
18.Leave School	3	0
19.Sexuality a concern	3	0
20.Sexual Abuse	3	1.
21.Family member leaves home	2	1
22.Family member has marital problems	2	1
23.Engagement	2	0
24.Weight gain	2	0
25.Pregnancy	2	1
26.New job	2	1
27.Fired	2	1
28.Business failure	2	0
29.Court appearance	2	1
30.Best friend moved	1	2

Table 2

Entrances and Exits from Social Field: Difference in Frequency between Personality Disorder/Normal Personality

Category	(n = 44) P.D.	(n = 23) Normal	Sig.	Events
Entrance	12	4	ns	Engagement Marriage Birth New person in home New job Started school training programme
Exit	29	15	ns	Death of close family member Separation Divorce Family member leaves home Therapeutic abortion Miscarriage Stillbirth Best friend moves

Table 3

Tabulation of Personality Disorder/Normal Personality Responses to Life Events: Major Depressive Disorder

Life Event	(n = 15) P.D.	(n = 13) Normal
1. Major financial problems	8	3
2. Unemployment	6	1
3. Increases arguments with spouse	6	2
4. Family member has serious illness	6	1
5. Death of close family member	2	3
6. Serious physical illness	3	0
7. Changes at work	3	3
8. Separation	2	2
9. Move	1	2
10.Difficulties with children	3	4
11.Stress at school	0	1
12.Physical Abuse	0	0
13.Arguments with family members	0	0
14.Divorce	1	0
15.Criminal charges	0	0
16.Few friends	0	0
17.Family member has legal problems	1	0
18.Leave School	0	0
19.Sexuality a concern	1	0
20.Sexual Abuse	1	1
22.Family member leaves home	0	1
23.Family member has marital problems	1	0
24.Weight gain	0	0
25.Pregnancy	1	1
26.New job	1	1
27.Fired	0	0
28.Business failure	1	0
29.Court appearance	1	0
30.Best friend moved	0	1

Table 4

Entrances and Exits from Social Field: Personality Disorder/Normal Personality with Major Depressive Disorder

Category	(n = 15) P.D.	(n = 13) Normal	Sig.
Entrance	3	2	NS
Exit	6	7	NS

Table 5

Tabulation of Personality Disorder/Normal Personality Responses to Life Events: Adjustment Disorder Depression

Life Event	(n = 13) P.D.	(n = 7) Normal
1. Major financial problems	8	2
2. Unemployment	5	2
3. Increases arguments with spouse	8	0
4. Family member has serious illness	4	0
5. Death of close family member	6	2
6. Serious physical illness	3	1
7. Changes at work	2	0
8. Separation	3	1
9. Move	5	1
10.Difficulties with children	1	0
11.Stress at school	5	1
12.Physical Abuse	2	0
13.Arguments with family members	1	2
14.Divorce	2	0
15.Criminal charges	2	1
16.Few friends	2	0
17.Family member has legal problems	2	0
18.Leave School	2	0
19.Sexuality a concern	2	0
20.Sexual Abuse	2	0
22.Family member leaves home	0	0
23.Family member has marital problems	1	0
24.Weight gain	1	0
25.Pregnancy	1	0
26.New job	0	0
27.Fired	2	1
28.Business failure	1	0
29.Court appearance	0	1
30.Best friend moved	0	0

Table 6

Entrances and Exits from Social Field: Personality Disorder/Normal Personality with Adjustment Disorder Depression

Category	(n = 13) P.D.	(n = 7) Normal	chi sq
Entrance	1	0	NS
Exit	15	2	6.74

d.f.= 1, NS

Table 7

Desirable and Undesirable Events: Personality Disorder/Normal Personality with Adjustment Disorder Depression

Category	(n = 13) P.D.	(n = 7) Normal	chi sq
Desirable	1	0	NS
Undesirable	35	11	NS

Table 8

Events Grouped by Area of Activity:
Personality Disorder/Normal Personality
with Adjustment Disorder Depression

Category	(n = 13) P.D.	(n = 7) Normal	chi sq
Employment	15	4	NS
Health	10	1	NS
Family	10	4	NS
Marital	13	1	NS
Legal	3	2	NS

Table 9

Tabulation of Personality Disorder/Normal Personality Responses to Life Events: Secondary Depression

Life Event	(n = 16) P.D.	(n = 3) Normal
1. Major financial problems	7	1
2. Unemployment	8	1
3. Increases arguments with spouse	5	1
4. Family member has serious illness	3	0
5. Death of close family member	3	1
6. Serious physical illness	3	1
7. Changes at work	4	0
8. Separation	3	2
9. Move	1	1
10. Difficulties with children	2	0
11. Stress at school	1	0
12. Physical Abuse	3	0
13. Arguments with family members	4	0
14. Divorce	2	0
15. Criminal charges	2	0
16. Few friends	2	0
17. Family member has legal problems	0	0
18. Leave School	1	0
19. Sexuality a concern	0	0
20. Sexual Abuse	0	0
22. Family member leaves home	2	0
23. Family member has marital problems	0	0
24. Weight gain	1	0
25. Pregnancy	0	0
26. New job	1	0
27. Fired	0	0
28. Business failure	0	0
29. Court appearance	1	0
30. Best friend moved	0	1

Table 10

Entrances and Exits from Social Field: Personality Disorder/Normal Personality with Secondary Depression

Category	(n = 16) P.D.	(n = 3) Normal	Sig.
Entrance	2	0	NS
Exit	8	4	NS

Table 11

Desirable and Undesirable Events: Personality Disorder/Normal Personality with Secondary Depression

Category	(n = 16) P.D.	(n = 3) Normal	chi sq
Desirable	0	0	NS
Undesirable	26	6	NS

Table 12

Events Grouped by Area of Activity:
Personality Disorder/Normal Personality
with Secondary Depression

Category	(n = 16) P.D.	(n = 3) Normal	chi sq
Employment	14	1	NS
Health	6	1	NS
Family	10	0	NS
Marital	9	3	NS
Legal	3	0	NS

Table 13

Responses to Life Events: Borderline Personality Disorder versus Normal Personality

Life Event	(n = 30) Borderline	(n=23) Normal
1. Major financial problems	18	6
2. Unemployment	14	3
3. Increases arguments with spouse	12	3
4. Family member has serious illness	11	1
5. Death of close family member	8	6
6. Serious physical illness	6	2
7. Changes at work	6	3
8. Separation	6	5
9. Move	7	4
10. Difficulties with children	5	4
11. Stress at school	4	2
12. Physical Abuse	3	0
13. Arguments with family members	4	2
14. Divorce	3	0
15. Criminal charges	3	1
16. Few friends	2	0
17. Family member has legal problems	3	2
18. Leave School	1	0
19. Sexuality a concern	3	0
20. Sexual Abuse	2	1
21. Family member leaves home	1	1
22. Family member has marital problems	1	1
23. Engagement	1	0
24. Weight gain	1	0
25. Pregnancy	2	1
26. New job	2	1
27. Fired	2	1
28. Business failure	2	0
29. Court appearance	1	1
30. Best friend moved	1	2

Table 14

Entrances and Exits from Social Field: Borderline Personality Disorder versus Normal Personality

	(n = 30)	(n = 23)	
Category	Borderline	Normal	Sig.
Entrance	8	4	NS
Exit	22	14	NS

Table 15

Tabulation of Borderline/Other Personality Disorder Responses to Life Events

Life Event	(n = 30) Borderline P.D.	(n = 14) Other P.D.
1. Major financial problem	18	5
2. Unemployment	14	5
3. Increased arguments with spouse	12	6
4. Family member has serious illness	11	2
5. Death of close family member	8	3
6. Serious physical illness	6	3
7. Changes at work	6	3
8. Separation	6	2
9. Move	7	0
10. Difficulties with children	5	1
11. Stress at school	4	2
12. Physical abuse	3	2
13. Arguments with family members	4	1
14. Divorce	3	1
15. Criminal charges	3	1
16. Few friends	2	2
17. Family member has legal problems	3	0
18. Leave school	1	2
19. Sexuality a concern	3	0
20. Sexual abuse	2	1
21. Family member leaves home	1	1
22. Family member has marital problems	1	1
23. Engagement	1	1
24. Weight gain	1	1
25. Pregnancy	2	0
26. New job	2	0
27. Fired	2	0
28. Business failure	2	0
29. Court appearance	1	1
30. Best friend moved	1	0

Table 16

Entrances and Exits from Social Field: Difference in Frequency between Borderline/Other Personality disorder

Category	(n = 30) Borderline P.D.	(n = 14) Other P.D.	Sig.
Entrance	8	4	NS
Exit	22	7	NS

Table 17

Desirable and Undesirable Events: Frequency. Difference between Borderline/Other Personality Disorder Subjects

Category	(n = 30) Borderline P.D.	(n = 14) Other P.D.	Chi sq.
Desirable	1	1	NS
Undesirable	68	19	NS

APPENDIX E
Case Histories

* To Be Deleted From Bound Copies of Thesis