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Diagnostic and Onset of Symptomatology Predictors of Adolescent Hospitalization Patterns

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DIAGNOSTIC AND ONSET OF SYMPTOMATOLOGY PREDICTORS OF ADOLESCENT HOSPITALIZATION PATTERNS

by

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VITA

The author, Mary Gonzalez Jaworski, was born on June 10, 1958 in Astoria, New York. She is the daughter of Ralphael and the late Joan F. Gonzalez (1934-1990).

She obtained her secondary education at the Academy of the Sacred Heart in Bloomfield Hills, Michigan. She attended James Madison College at Michigan State University and in June, 1980 received the degree of Bachelor of Arts. In the Fall of 1981, the author entered Loyola University of Chicago's doctoral program in clinical psychology. In 1983, she was awarded a National Institute of Mental Health Fellowship. The author obtained her Masters of Arts degree in clinical psychology from Loyola University in 1984.

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CHAPTER I

INTRODUCTION

The incidence of inpatient psychiatric treatment for adolescents has increased dramatically in recent times. Statistics show that inpatient hospitalization for children under 18 has increased from 82,000 in 1980 to more than 112,000 in 1986, and was estimated at 150,000 for 1989. A recent article described adolescent psychiatry, with its burgeoning hospital programs and admission rates, a "national disgrace" (Newsweek, 1989). However, critics claim that an overwhelming number of adolescent psychiatric admissions are inappropriate and potentially harmful. Given this phenomena, the goal of the clinical and research community is to establish a set of diagnoses for which hospitalization is an expected and reasonable result.

Historically, the efficacy of psychiatric procedures has been a matter of faith, common sense, and a basic understanding of the natural course of untreated diseases (Gossett, Barnhart, Lewis, & Phillips, 1980). Today, as the public and professional community expect far more than containment for the psychiatrically hospitalized, there is a growing demand that research substantiate clinical theory. In particular, discussion is underway to implement stringent diagnostic

guidelines (DRG's): a system paralleling the medical and surgical specialties. This has met with considerable resistance from some practitioners who argue that treatment can differ greatly from case to case within the same diagnosis. This latter position has been criticized as a justification for the muddled state of affairs rather than as sine qua non.

Based on this suggestion from the literature, the present task is to elucidate the relationship of diagnosis to prognosis. The ability to determine successfully prognosis, and hence predict outcome, would greatly facilitate the making of administrative decisions and the optimal utilization of treatment resources. However, there is a paucity of knowledge regarding prognosis and etiology that is consequent to the inherent relationship between the outcome of the disorder and the nature of the disorder. Gossett (1985) describes the process of making prognostic predictions as a "blindfolded practice". Nonetheless, the overriding research objective must continue to be the identification of variables that affect prognosis.

Early research misinterpreted prognosis to be the speed with which the patient was discharged. Current research has become more interactive and less simplistic, abandoning the question, "does child psychotherapy work?" and replacing it with the specific question, "what therapy, under what condition, for which patients with which disorders yields results?"

(Glick & Hargreaves, 1979; Heinicke & Strassman, 1975). There are, however, inherent impediments to research on children and adolescents. One impediment has been the difficulty in distinguishing factors affecting treatment outcome. Development can alter the outward manifestation of underlying pathology which muddies the criterion for long-term outcome investigations (Blotcky, Dimperio, & Gossett, 1984). Consequently, it can be unclear whether behavior change is a reflection of the course of an illness, the product of developmental maturation, or a response to treatment intervention.

The conflicting and often discouraging research findings on the prognostic implications of diagnoses have generated a plethora of actuarial investigations. That is, investigators dissatisfied with the current taxonomy have correlated numerous discrete clinical symptoms and demographic variables with treatment outcome. Despite achieving statistical significance, the findings are often difficult to interpret in that they are typically not grounded within a theoretical framework. Such single data variables by themselves can be misleading (Guertin, 1977). Zinn (1979) notes that it is not the symptom per se that is at issue, but rather the process and/or structural component to psychopathology, that is then neglected in the "actuarial" studies. In contrast, research generated from a defined theoretical position has the advantage of focused exploration of causal agents which then

facilitates the making of prognostic predictions as well as directs prevention efforts.

Given the overall state of affairs in the field of adolescent hospitalization research, clinical diagnosis must be central in the investigations of psychopathology. The prognostic superiority of diagnoses is commonly held. Prognosis directly varies with diagnosis and more specifically, response to treatment is a function of the diagnostic category. The failure of research to substantiate consistently this position has been defended as a reflection of inherent problems with our classification system rather than a lack of integrity of clinical diagnoses per se. Some authors point to a prime example of professional bias seen in clinicians reluctant to diagnose adolescents with more serious psychopathology and who instead overuse the "adjustment reaction" diagnosis.

In response to the present disarray within the field, the purpose of this dissertation is to address the significance of diagnostic variables as predictors of outcome in a population of psychiatrically hospitalized adolescents within a theoretical context. The failure of psychiatry and psychology to produce an adequate predictive system points to the importance of establishing reliable and useful psychiatric classification (Guertin, 1977). This investigation will utilize the theoretical taxonomy of Millon. As a proponent of typologies, Millon notes both their ease of use by

clinicians as well as the capacity to suggest characteristics beyond the immediately observed (1973). Millon's position contrasts with the tendency of dimensional schemata which dissect personality into distinct and uncoordinated traits. He contends that diagnoses must assess not only the patient's current symptom picture, in terms of DSM-III Axis I, but in addition assess those pervasive features that characterize the enduring personality pattern. Lifelong personality traits are thus viewed as, "a substrate and a context for understanding the more florid and distinct forms of psychopathology" (1973, p. 3). Millon introduces his book, Disorders of Personality, as a companion volume to the DSM-III. He observes that personality disorders have "come of age" from having only incidental relevance to diagnosis to becoming central to the DSM-III multiaxial format (p. vii). Since Axis I and Axis II interactions are not often well articulated on the typical diagnostic assessment, this study will incorporate the work of Gossett and colleagues who similarly propose the need to understand more fully the dynamics and sequences through which clinical symptoms unfold. Specifically, this study will utilize Gossett's Onset of Symptomatology Scale. The scale provides a quantitative measure of the clinical tradition that patients with long histories of symptomatic functioning in a variety of life areas bode a poorer prognosis than patients with healthier early histories and more recent onset of disturbance. Furthermore, the scale attempts to account for

the developmental factors that are usually regarded as highly contributory to character pathology.

Hypotheses testing will involve predictions based on clinical theory as well as empirical investigations. It is ultimately hoped that a formularistic attempt at determining likely length of stay, disposition, and recidivism for specific diagnostic groupings will provide valuable information useful for improved treatment planning which in turn will provide more effective allocation of limited resources.

CHAPTER II

REVIEW OF THE LITERATURE

The Interface of Diagnosis and Prognosis

Diagnosis has been held in mixed regard reflecting the changing professional zeitgeist. In the early 1900's, nosology was central, given that treatment was predominately custodial. Professional expertise was manifest in making accurate diagnosis which then had direct implications for ward assignment as well as for duration and course within the hospital. The advent of competing treatment theories and greater range of interventions shifted attention from diagnosis to treatment. Psychiatric diagnosis was disparaged as "undynamic, . . . unreliable, and lacking in predictive utility" (Lorr, 1963, p. 8). Guertin (1977) had found that almost two-thirds of disagreement in diagnosis was attributable to inadequate nomenclature.

Despite limitations, Meehl (1959) maintained that, "assignment of a patient to a class has implications which are clinically unsound to ignore" (p.). Similarly, Lorr (1963) contends that knowledge of class membership is immediately useful in predicting behavior and moreover, patient classes can contribute to etiology, more effective treatment and a better understanding of the duration and course of disorders.

Given the potential value, diagnosis must be central administratively, therapeutically, as well as in research, particularly with regards to prevention.

More recently, Millon (1981) argues that typologies restore the unity of personality by integrating seemingly diverse elements into a single coordinated syndrome. With a solid foundation in theory, diagnoses can better elucidate the developmental unfolding of clinical symptoms and provide a clearer understanding of the underlying dynamics. The clinician well acquainted with theoretical underpinnings of diagnosis attends to aspects of behavior based on a sound rationale, rather than motivated by momentary impressions of importance.

Numerous investigations have attempted to delineate the prognostic implications inherent in diagnostic statements. A landmark publication on the prognosis of disorders of adolescence was Masterson's investigation of 153 psychiatrically hospitalized youth (1958). He found that prognostic factors were found to vary in strength and relevancy from one diagnostic group to another. Masterson examined the relationship between 20 clinical prognostic factors and the patient's later adjustment. Among the variables included were: age, length of onset, precipitating factor, "neuropathic" traits, school adjustment, psychopathology, diagnosis, length of hospitalization, response to treatment, and status at discharge. A significant finding was the predominance of the

"guarded" prognostic category. Masterson interpreted this as a reflection of both the "psychiatrist's caution and his uncertainty", especially with adolescent patients.

Welner, Welner, and Fishman's (1979) eight to ten year follow-up of 77 adolescent psychiatric patients focused on the more severe diagnoses of adolescent onset schizophrenia and bipolar disorders. Consistent with previous research and clinical theory, Welner et al. found the rapid deterioration of patients with adolescent-onset schizophrenia. Additionally, their findings identified the poor prognosis of those patients diagnosed with adolescent onset bipolar affective disorders.

In another review, Garber (1972) found that adolescents with schizophrenic disorders and organic reactions have poor outcomes while those with affective disorders or psychoneuroses tend to have good outcomes. Bender (1969) likewise corroborates the contention that organicity is associated with poor outcome.

Summarizing his extensive research and treatment of adolescent psychiatric patients, Gossett (1985) identified three diagnostic groups associated with a poor prognosis. The largest group is patients with chronic personality disorders reflecting significant antisocial traits. He describes such patients as, "deriving from either a chaotic impulse-ridden family . . . or a 'pillar of the community' family in which the patient is repeatedly rejected or scapegoated, or the

rigid, conflict-habituated family (p. 597). The next group of poor outcome patients is those diagnosed with chronic severe schizophrenia, with psychotic symptomatology present since puberty. These patients have longer hospital length of stays and more frequent readmissions. The last group associated with a poor prognosis is those diagnosed with severe to profound borderline personality disorders and/or pervasive developmental disorders.

Pichel investigated the prognostic significance of initial diagnosis in his long term follow-up study of 60 adolescent psychiatric outpatients (1974). Although diagnosis was central in articulating prognostic formulations, Pichel also considered the presenting complaint, the history of prior childhood disorders, the family and environmental milieu, and the ability of the patient to establish rapport. Pichel was able to predict with some degree of accuracy which patients would make a satisfactory adult adjustment and which would not. At follow-up, 46% of the sample reported continued difficulty, which prompted further psychiatric treatment. Pichel was also able to determine that all but one adolescent with prior psychiatric contact as a child (20% of sample) required further psychiatric treatment as an adult. Based on these findings, Pichel concluded that poor outcome relates to a history of earlier childhood disorders and a diagnosis of psychosis, personality disorder or obsessive-compulsive neurosis.

Levy's (1969) findings support the belief that the outcome relates to the prognostic implications inherent in initial diagnostic statements. He found that patients diagnosed at admission with a schizophrenic reaction or childhood psychosis, as a group, exhibited a poorer level of functioning. Moreover, the presence of low intelligence contributed to an even bleaker prognosis. Rutter et al. (1976) also contended that prognosis varies in the expected direction with diagnoses. They found that psychotic disorders have the poorest prognosis, neurotic disorders the most favorable, and conduct disorders have an intermediate prognosis. Rutter et al. concluded that prognosis for adolescent psychiatric disturbances is more dependent of diagnosis than age of onset, despite the uniqueness of this factor.

Treatment outcome research has contributed to the understanding of the relationship of prognosis and diagnosis. A 1980 (Tramontana) review of psychotherapy outcome research with adolescents supports the contention that treatment outcome is not a static phenomena but shifts as diagnosis is considered. Estimating a base rate of 75% positive outcome with treatment compared with a rate of 39% without psychotherapy, Tramontana made comparisons across diagnostic categories. He found that those patients diagnosed as neurotic tend to do well with or without psychotherapy suggesting overall good prognosis. In contrast, those with

a psychotic diagnosis tend to do poorly, although those psychotic patients involved in therapy do somewhat better (Levy, 1969). Hence, a psychotic disorder implies a poorer prognosis. Finally, those diagnosed with personality disorders show more variance, with those in therapy slightly more adjusted than those without treatment (Tramontana, 1980). This would suggest a variable prognosis related to type of personality disorder.

An impediment to the research in prognosis/outcome is the often tacit assumption of follow-up studies of psychotherapy outcome: that is, unless a psychotherapeutic intervention produces long lasting change, it is not of much value. Drawing on a medical analogy, Tramontana (1980) argues that an intervention producing temporary effects may have value in that improvement is greater or is achieved more quickly than without treatment. Moreover, new conditions may arise that require their own treatment and this should not affect the appraisal of the original medical treatment.

Research has substantiated the presence of special symptom patterns with negative prognostic implications. However, in clarifying the complex relationship of prognosis and diagnosis, the literature revealed few definitive research investigations, particularly with an adolescent population. Moreover, much of the follow-up findings on psychiatrically hospitalized adolescents are discouraging. This has fostered the erroneous conclusion that adolescents sufficiently

disturbed to require hospitalization have undergone damage so severe as to render them untreatable (Garber, 1972). The obstacles both practical and methodological, as well as theoretical, are formidable. However, with the introduction of Millon's theoretical taxonomy, it is this investigator's contention that diagnosis as a prognostic indicator will be better realized.

Hospitalization of the Young

In theory, diagnosis should be most central in the decision to psychiatrically hospitalize. Feinstein and Uribe (1986) contend that the decision to hospitalize demands, "an integration of developmental, intrapersonal, and psychosocial factors that are operative, along with current conflict and behavior that signal the presence of extreme emotional stress" (p. 861). In essence, what is necessary is comprehensive diagnostic assessments. And yet, Maluccio and Marlow (1972) summarize the state of affairs in their observation that the decision to hospitalize a child is individualized and based on a complex array of idiosyncratic variables that seemingly defy categorization.

Few would dispute the need for psychiatric hospitalization. The escalation in symptomatology of adolescent psychiatric patients is well documented. Based a retrospective study of adolescent psychiatric admissions, Rosenstock's (1985) observed that, "something is changing for the worse" (p. 959). Within a sample of 900 adolescents

studied between 1974 and 1982, Rosenstock identified a core group of symptoms. They included: complaints of school and family problems, threatening and aggressive behavior, runaway, substance abuse, anxiety and withdrawal behavior, depression and suicidal ideation, bizarre behavior, and somatic complaints. Rosenstock observed an increase in serious symptoms commonly associated with psychiatric admissions. Most disturbing was the finding that depression almost doubled as a presenting complaint over the years from 15.6% in 1974-1976 to 29% in 1980-1982 and suicidal ideation increased three-fold from 3.3% in 1974-1976 to 10.6% in 1980-1982. Substance abuse doubled over the years from 4.0% in 1974-1976 to 8.8% in 1980-1982. In contrast, the typically less severe symptoms of family and home conflicts decreased dramatically.

It is commonly held that psychiatric hospitalization is warranted when there is a functional impairment in all facets of a person's life, commonly defined as, family, community, and school. The hospital setting functions to provide the necessary short range control of symptoms and the protection of the patient (Erikson, 1975). Petti (1980) supports short-term hospitalization for youngsters in an acute crisis that, "demand a structured setting for its resolution, who are failing to benefit from existing treatment and require a new approach which cannot be successfully initiated from an out-patient setting, or who need an evaluation that circumstances demand be completed in a highly structured setting, where the

degree of parental involvement can be flexibly managed" (p. 211).

Costello, Dulcan, and Kalas (1984) found a paucity of research on diagnostic criteria for admission of children much less on the characteristics of children who are admitted. They discovered a wide variability among child psychiatric institutions, the unreliability of clinical diagnosis, and convoluted relationships between measures of severity, diagnosis, and disposition. Each has made comparisons across treatment settings awkward. Moreover, admission standards tended to be overinclusive and so ambiguous that any child receiving almost any type of psychiatric treatment would meet the criteria.

Barack (1986) corroborated an absence of clear guidelines establishing the need for psychiatric attention and relevant patient diagnostic characteristics. He also failed to observe a natural progression of treatment utilized. That is, there was no evidence of a progression from least restrictive to more restrictive interventions. In Barack's (1986) retrospective study, a group of children admitted to a psychiatric hospital were compared to a group of emotionally disturbed children receiving services in special classes within the public schools. The five variables of interest were: psychiatric diagnosis (DSM III), intellectual functioning, academic achievement, age, and sex. There were no differences between the hospitalized group and the EI

classroom group on diagnosis, IQ, academic achievement, or sex. Age at time of admission was a differentiating variable. Children who were admitted to the hospital were significantly older (M= 115 months) than those placed in a special classroom setting (M=97.9 months). Additionally, Barack was able to identify a precipitant to hospitalization in 48% of the cases.

Based on their review of the literature, Sackin and Meyer (1976) suggest that the critical admission criterion is not diagnosis, symptoms, or prognosis, but a community (e.g., parents, teachers, therapist, police) intolerance of the child's behavior. In a comparison of psychiatrically hospitalized children to children receiving outpatient care, Kashini and Cantell (1983) identified between group differences in presenting complaints, symptoms, family variables, and discharge diagnoses. However, there was also considerable overlap. Mattsson, Seese, and Hawkins (1969) found in their retrospective study of child and adolescent psychiatric emergencies, that patients who were overtly psychotic, markedly depressed and suicidal, or assaultive were more likely to be recommended for hospitalization.

Beitchman and Dielman (1982) challenged the notion that the relationship between diagnosis and treatment is weak. Findings from their study review of 849 case records of psychiatrically hospitalized children, identified diagnosis as the best predictor of admission. Psychotic conditions and psychophysiologic disorders were most likely to be hospital-

ized, followed by personality disorders, and lastly neurotic disorders and developmental disorders. Despite positive findings, Beitchman and Dielman (1982) concluded that traditional statements about the significance of clinical variables are oversimplifications inasmuch as their relationships were influenced by age, sex, social class, and the presence or absence of environmental stress. For example, sex was not associated with the hospitalization status of children with personality disorders. However, girls were more likely than boys to be hospitalized with psychophysiologic and developmental disorders, and boys more likely to be hospitalized with neurotic and psychotic disorders. Also, in contrast to neurotic and developmental disorders, there was an increased likelihood of hospitalization for those with personality disorders and psychotic disorders as social class fell from managerial to blue collar to the unskilled/unemployed.

In sum, there is a need for a synthesis of diagnostic factors evident and the resources available in making the decision to hospitalize (Feinstein & Uribe, 1986). However, the proliferation of psychiatric services makes proper program selection difficult. Furthermore, with the high cost of hospitalization, alternatives to admission are increasingly sought (Bedford & Hybertson, 1975). However, alternatives must be pursued with caution given the usual risk factors (Beitchman & Dielman, 1982).

Quantification of Prognosis

Despite the primary use of diagnosis to dictate the best treatment, a definitive relationship between diagnosis and appropriate treatment has been criticized (Guertin, 1977). In response to this criticism, there has been a proliferation in what has been described as, "simple empirical" investigations (Cattell, 1965). The objective of such research is to relate the data level variables directly to outcome rather than link them through the theoretical constructs of syndrome and diagnosis. Cattell (1965) has been critical of this type of research. Nonetheless, a number of investigations has assumed this approach and produced findings worthy of note.

Logan, Barnhart, and Gossett (1982) proposed a correlation between an adolescent's capacity to form relationships while hospitalized with long term treatment outcomes. Their findings support the positive prognostic significance of an adolescent's ability to form satisfactory relationships with peers, their overall popularity with peers, and ability to form "a meaningful" relationship with the nursing staff. In a similar pursuit, Masterson and Costello (1980) in a follow-up study of borderline adolescents, found preadmission level of social functioning and quality of peer object relations at admission to be predictive of treatment outcome.

Barrett, Hampe, and Miller (1978) report that for psychotic patients and to a lessor extent, nonpsychotic

hospitalized adolescents, below average intelligence most often indicated a negative prognosis (Levy, 1969). There was little, if any, differentiation for those patients with normal intelligence and those of superior intellectual ability. The expression of psychopathology has been found to vary with sex with the prognosis for girls being slightly poorer than for boys.

Davids and Salvatore (1976) report that children exhibiting antisocial or bizarre behavior showed poorer adjustment at follow-up compared to children with more fearful or withdrawn behaviors. Lewis, Lewis, and Shanok (1980) found that psychotic symptoms are overwhelmingly prominent in the poor outcome group. Beskind's (1962) review of discharge results from a number of adolescent inpatient units, found a 65-75% symptomatic improvement rate at the time of discharge regardless of diagnostic category or therapeutic approach. In contrast, follow-up evaluations determined that long-term outcomes vary across diagnoses. Investigations have found that schizophrenic disorders evidenced signs of deterioration at follow-up results, whereas affective disorders, psychoneuroses and psychopathic disturbances did not. Hartmann (1968) identified factors, such as good object relations, acute onset, normal handling of aggression as related to outcome in the inpatient adolescent population. In McConville and Purohit's (1973) sample of 85 children at one year follow-up, children with social and behavioral symptoms were more

likely to improve than were other symptoms. Marked impairment in interpersonal relationship skills was associated with poor long-term outcome.

Costello, Dulcan, and Kalas (1984) utilized a symptom check list to delineate more accurately discriminating criteria for hospitalization. The instrument, a 12 item Criteria for Hospitalization (CFH) weights items related to danger to self and/or others, failure to respond to treatment, and adverse social circumstances. Their findings revealed a slight tendency for age to be associated with admission whereas sex was unrelated. However, the variance in hospital admission rates was almost entirely accounted for by the aggressive and vandalism items on the CFH.

Zigler and Phillips (1961) propose the central role of personal and social maturity and the manifestation of psychiatric disturbances. In their developmental schema, individuals progress through successive stages of maturity, with some advancing more than others. At each developmental stage, there is the possibility for a normal pattern of adaptation as well as a pathological one. Two hundred and fifty-one clinical case histories were rated as High or Low Social Competence based on the following indices: age, intelligence, education, occupation, employment history, and marital status. The patient group defined as Low Competence, had both a lengthier period of hospitalization and a greater likelihood of readmission than the high competence patient

group. However, they failed to identify a significant relationship between premorbid social competence and duration out between hospitalizations. Despite its face validity with the contention that the greater the individual's psychological resources, the better the prognosis, the authors recommend a more specific delineation of those prognostic factors.

Garber's (1972) 10 year follow-up of hospitalized adolescents yielded profiles of improved and unimproved patients at discharge. The unimproved adolescent tended to be male, with a length of stay of less than six months, medicated, and uninvolved with peers, staff and the treatment program. In contrast, the markedly improved adolescent usually had a lengthier hospitalization, usually between six to 12 months and usually not on any medication. The parents of the improved patients tended to be involved with staff, the program and other adolescents as well as participating in their own treatment.

Garber (1972) also examined the relationship between a patient's treatment course in the hospital with functioning at follow-up 12 to 128 months later. Garber concluded that the best predictors of functioning at follow-up to hospitalization were the use of medication while hospitalized and involvement and interest of the staff. Length of stay; private and service status; discharge diagnosis; condition on discharge; optimism of the staff; and involvement with the adolescent group were found not to be significant.

A ubiquitous measure of prognosis, or outcome, has been length of stay. Length of hospitalization has been associated with outcome based on the assumption that LOS bears a relationship to the likelihood that inpatient treatment goals were completed. Theoretically, the treatment objective for the hospitalized adolescent has been "to reconcile the patient with the inevitable resignation to the demands of reality; and, by insisting on a realistic, relatively impersonal, basic minimum set of freedom restrictions, to develop capacity to stand some narcissistic wound in the process" (Hacker & Geleerd, 1945, p. 621).

Given the enormity of this goal, a common clinical impression is that the longer the adolescent remains in a therapeutic environment, the greater the chance for improvement. Davids and Salvatore (1976) reported that treatment periods of over one year led to better posthospital adjustment. Levy (1969) also concluded that completion of inpatient treatment was a positive prognostic sign. Blotcky et al. (1984) reported a success rate of 87% for those patients completing treatment as compared with a 42% success rate for those patients prematurely discharged.

The task of predicting the length of a patient's psychiatric stay has considerable practical import in selecting the most appropriate treatment program and in advising patients and their families about the relative length of stay required for a successful outcome. Currently,

clinicians are faced with the notion that a shorter length of stay is generally preferable. Feinstein and Uribe (1976) contend that the "concept of short-term hospitalization is dependent upon the rapid reorganization of the child and his family. Acute onset disorders may lend themselves to this approach if the fundamental problem is a reactive one and removal of the stressor can be accomplished quickly. The most common interference with rapid integration is the presence of an unrecognized process disorder which only reveals the depth of psychopathology when the adolescent is separated from the family" (p. 862).

As with establishing criteria for admission, efforts to correlate, and hence predict, LOS and diagnosis have yielded mixed results. Feinstein and Uribe (1976) recommend short-term hospitalization (i.e., up to 3 months) for diagnoses of anxiety disorders, acute psychotic reactions, acute affective disorders, dissociative disorders, psychosexual conflicts, impulse disorders, and toxic disorders from substances. Long-term hospitalization (4 to 12 months) is best utilized in making, "structural changes necessary to correct deviant developmental processes influenced by early onset pathology" (p. 863). This would be the indicated treatment for conduct disorders who are chronically unresponsive to outpatient therapy; as well as, eating disorders; psychotics whose underlying personality is Borderline or Schizophrenic; and

finally, affective disorders with early onset or a borderline character structure.

Glick and Hargreaves (1979) found that long-term treatment was efficacious for schizophrenics with good prehospital functioning as well as affective disorders. However, for neurotics, personality disorders, and schizophrenics with a history of poor prehospital functioning, short term treatment was equally as effective. Masterson (1958) found that length of stay was significant in making prognostic statements with patients diagnosed with schizophrenia. He found that when the length of stay exceeded four months, the prognosis was poorer. In contrast, psychoneurotic tended to remain hospitalized for longer periods of time, but this did not detract from a good prognosis.

Others have been critical of diagnosis, viewing it as a weak predictor of LOS. Cyr and Haley (1983) concluded that traditional clinical and demographic variables can only account for about 30% of the variance in hospital length of stay. In a sample of long-term hospitalized patients, Harty et al. (1981) found that family support for hospitalization was related to length of stay whereas no patient characteristic was predictive. Browning (1986) assessed the relationship of ego development to problem ward behavior and length of hospitalization in a population of adolescent and young adult patients. There was a significant, albeit small,

inverse relationship between problem behaviors and level of ego development, specifically, those at the more primitive levels of ego development generally had lengthier hospitalizations. Results failed to support intelligence level or problem behaviors as predictors. Curran, Miller, Zwick, Monti, and Stout (1979) reported that patients labelled as "socially inadequate" had longer length of hospital stays.

In response to the inconclusive, and often contradictory follow-up findings, Allen, Tarnoff, Coyne, and Spohn (1985) suggest differentiating between "actual" length of stay and "optimal" length of stay. They contend that earlier investigations were unsuccessful because they assumed, often erroneously, that patients would tend to remain hospitalized as long as they needed. Allen et al. suggest different variables may be predictive and function quite differently across the two groups of "optimal stay" patients" and premature discharge patients. In their study at the Menninger Hospital, patients were divided into optimal stay and premature discharge groups. They found that for the optimal stay group, severity of pathology, disturbed thought processes and self-esteem conflicts were related to length of stay. Patients in the premature discharge group exhibited more impairment in object constancy, reality testing, impulse control, and judgment. These authors were able to conclude that severe psychopathology may be an indication of the

greatest need for a relatively long stay and paradoxically, a signal of least tolerance for a lengthy hospitalization.

A further complication in utilizing LOS as an outcome measure is that the introduction of inpatient treatment by itself incorporates a powerful variable; the removal of the patient from the home. Garber (1972) suggests that a lengthy separation from home gives a youth a chance for a "corrective emotional experience and allows for healthier identificatory models in a presumably more benign environment" (p. 70). This phenomena had been documented in a long term follow-up of former inpatients at Menninger Clinic's Children's Hospital (Levy, 1969). In a sample of 100 children and adolescents, the curative agent for approximately half the patients seemed to be the removal from a disturbed environment to a more benign one. The remaining patients appeared to benefit from the unique aspects of the hospital - e.g., the milieu and the structure.

In reviewing the literature, Zigler and Phillips (1961) found that although studies may satisfy methodological requirements, they lack an adequate theoretical frame. They conclude that a, "continued piecemeal and empirical investigations of case history items offers little heuristic value. . ., rather what appears to be needed is a theoretical framework which can meaningfully include such biographical items and thus provide them with a conceptual foundation" (p. 265). In a similar vein, Millon criticizes the dimensional

schemas which fractionate personality into discrete, uncoordinated traits. Rather, Millon proposes a theoretical taxonomy which addresses the personality in its entirety.

A Developmental Perspective and the OSS

In response to the need for a more comprehensive and multidimensional assessment, investigators have grounded their child psychopathology research in the principles of developmental psychology. A central focus has been the age at which psychopathology becomes manifest. Age at onset indicates the age of fixation that hints at how early and therefore how severely, the child's social and intrapsychic development may have been impaired.

Clinical tradition maintains that admission at a young age and early onset of symptoms were synonymous a poor prognosis. Tramontana (1980) concurs that a history of childhood disturbance is a prognostic sign. Morris (1956) found that symptom onset before the age of five years is associated with poor functioning at follow-up. Blotcky, Dimperio, and Gossett (1984) also contend that age of onset reflects severity of illness.

Research does not uniformly support the relationship of age and prognosis (Stewart, Adams, & Meardon, 1978). Blotcky, Dimperio, and Gossett (1984) argue that while age at onset may reflect severity of psychopathology it also is influenced by external factors such as the family's tolerance for disruptive behavior. They contend that level of family functioning,

presence of parental mental illness, and a history of multiple parenting figures are also considered powerful prognostic indicators. Levy (1969) found that patients from relatively well adjusted families did much better than those highly disturbed families. Gossett (1985) suggests that the quality of family life as well as the family treatment alliance impacts on the patients ability to handle daily life demands after discharge and thus resist rehospitalization. Grob and Singer (1974) identified early separation from parents, runaway reactions, parental disciplinary practices, peer relationship abilities, academic performance as relevant to the severity and type of onset of psychopathology.

Steinhausen and Radtke (1985) examined the role of external factors by measuring the impact of life events on child development. Their findings confirmed the presence of an elevated number of adverse life events in the psychiatric group when compared to the group of nondisturbed children. Interestingly, the timing of life events was not related to the timing of the referral for psychiatric services. Steinhausen and Radtke also investigated the differential impact of life events on various child psychiatric disorders. They found that ratings of past undesirable life events discriminated the conduct disorders from the emotional disorders, with high scores indicative of conduct disorders. Additionally, ratings of family warmth and inadequate/inconsistent control were also powerful in discriminating between

these two groups. While these trends are informative, Steinhausen and Radtke (1985) concluded that life events have a nonspecific effect on the development of child psychiatric disorders.

The onset of symptomatology and the severity of psychopathology have developed into core constructs in the understanding etiology and prognosis of mental disorders. Onset and severity of illness are fundamental dimensions of psychopathology which cut across the particular idiosyncratic characteristics of specific diagnoses. Consequently, an increased understanding into the relationship of onset of symptomatology and severity of illness with prognosis would contribute to the research on diagnosis/prognosis.

The process-reactive nature of psychopathology has been most successful in attracting research attention. According to theory, illnesses diagnosed to be reactive (i.e., a tendency for a specific traumatic event to precipitate dysfunction) have a better prognosis than those diagnosed process (i.e., an insidious history of dysfunctional behaviors). The duality of good premorbid adjustment and good prognosis has found support in the literature (Zigler & Phillips, 1961). Furthermore, it has been shown that persons who exhibit good premorbid social adequacy also have a greater likelihood for a reactive disorder. In contrast, those with a poor premorbid social adequacy show a tendency for a process disorder. This configuration of good premorbid adjustment and

good prognosis along with type of onset differentiate the reactive from the process type of DSM-II schizophrenia, which parallels the organic-functional dichotomy in etiology (Zigler & Phillips, 1961).

The discussion of "onset of symptomatology" had been previously restricted to the schizophrenic disorders. More recent findings indicate the complex of premorbid social competence and prognosis may be found within diagnostic groups whose etiology traditionally have been classified nonorganic, e.g., psychoneurotic and character disorders (Zigler & Phillips, 1976). Early studies correlated 13 pre-adult variables with the process/reactive nature of psychopathology; early psychological trauma, childhood physical illness, evidence of "oddness" in early childhood (e.g., tantrums, feeding problems, breath holding, enuresis, night terrors), academic failures, isolation from peers, disturbed siblings, psychopathology in siblings, heterosexual experiences, rate of symptom onset, intensity of symptom onset, precipitating stresses, and rate of symptomatic change early in hospitalization (Gossett, Meeks, Barnhart, & Phillips, 1976).

The theoretical construct of onset of symptomatology has been operationalized in the work of Gossett and colleagues (1969). The development of the Onset of Symptomatology Scale was an outgrowth of a project whose eventual goal was the expansion of the empirical base for diagnostic evaluations and elucidation of the natural courses of adolescent psychopatho-

logy. Gossett et al.'s utilized an adolescent inpatient population of primarily characterological, borderline, and psychotic disorders, the majority of whom were referred for long-term intensive care after failure of outpatient or short term inpatient treatment.

Within this sample of hospitalized adolescents, Gossett, Lewis, Lewis, & Phillips (1973) reported six predictor variables as significantly related to long-term outcome of teenagers with histories of inpatient psychiatric treatment. Variables were grouped according to their relevance to the patient, the treatment program, or aftercare. The patient variables included severity of psychopathology (traditionally the psychiatric diagnoses), the process or reactive onset of symptomatology, and intelligence. The treatment factors included the presence of a specialized adolescent program and the completion of in-hospital treatment. The remaining correlate refers to aftercare, that is, whether there was a continuation of psychotherapy following discharge as well as the provision of adequate training in social and vocational skills, educational, and vocational guidance, medications, and transitional living. Although severity of family psychopathology lacked significance, multiple signs of family disturbance indicated a poor prognosis.

The process/reactive nature of adolescent psychopathology was most central in the investigation. The instrument measures the process-reactive dimension of psychopathology.

The term "process" describes psychopathology which appear to have had their "symptomatic origins in the earliest years of life, evolving slowly over a number of years into deeply internalized life patterns" (Gossett, Barnhart, Lewis, & Phillips, 1976, p. 1038). Reactive disorders refer to an acute reaction to a stress. Gossett et al. (1976) devised the Onset of Symptomatology based on the following significant variables: psychological trauma, physical trauma, behavior control, academic progress, peer relationships, passivity-aggressiveness, and symptom duration.

The Onset of Symptomatology Scale was found to be correlated with long-term outcome. In fact, the Scale was able in the first several weeks of treatment, to provide as accurate a prediction of outcome as the discharge diagnosis which is generated only after many months of treatment. The subscale, Academic Progress, was found to be the strongest single predictor of follow-up level of functioning. Additionally, the instrument was most discriminating at the "reactive" end of the continuum. The Scale also differentiated among severity of psychopathology, that is, among neurotic, behavior disorder, and psychotic diagnoses. In the pilot study, eight of the ten neurotic patients scored reactive and 12 of the 14 psychotic patients scored as process disorders, behavior disordered were mixed with 12 of the 31 grouped as reactive.

Gossett et al. found that most adolescents with reactive disorders were functioning well at follow-up. Those with more chronic histories had only a 50% chance of doing well at follow-up. These findings were consistent with the literature. The pilot study's neurotic patients' outcome at follow-up was either "good" or "fair", regardless of their Scale score. The outcome of the psychotic patient was generally "poor", with only three "fair", and two "good". For the 31 behavior disordered patients, a scale score of 13 or less was highly predictive of "good" or "fair" outcome. In contrast, a high Scale score did not discriminate well between the three outcome levels.

In a later study, Gossett et al. (1977) reexamined the pilot study data, this time with lengthier follow-up. Patients had been discharged between 20 months to 4 years earlier. Gossett et al. found that the Onset of Symptomatology Scale was significantly correlated with long-term outcome. Additionally, diagnostic severity and the type of treatment termination were related to later outcome. These results corroborate earlier investigations (Barrett, Hampe, & Miller, 1978) that severity of psychopathology and the type of onset of symptomatology are the most useful predictors of long-term outcome.

Gossett introduced a revision of the Onset of Symptomatology Scale that employed only four of the original seven subscales: psychological trauma; school performance;

peer relationships; symptom duration (1980). The scoring procedure remained the same. Kowitt, Sachs, Lowe, Schuller, Rubel, and Eliis (1989) utilized the revised edition of the Scale and found the correlations between the four subscales and the total score ranged from .60 to .80 with an average of .70. The highest correlation, .80 occurred on the symptom duration subscale, suggesting that this dimension accounts for the greatest portion of the variance. Additionally, Kowitt et al. found that those patients with process illness, i.e., long histories of psychopathology, were doing significantly worse than the patients with reactive illness. This contrasted to their presentation at admission, where patients identified as process disorder, those with longest symptom duration and least precipitating stress, tended to be functioning somewhat better.

A later investigation of Gossett, Barnhart, Lewis, and Phillips (1977) examined the contributing effects of the presence of patient antipersonal acting out and energy level on treatment outcome in addition to severity of psychopathology, onset of symptomatology, type of treatment termination, and follow through with aftercare. Antipersonal acting-out was defined as the degree of physically destructive and threatening behavior prior to hospitalization. Patients were also identified as manifesting one of three energy levels; lethargic and apathetic, average or above average activity levels. Onset of symptomatology was found to be the

most highly related to long-term outcome, with energy level being a weaker predictor, and antipersonal acting-out the weakest. Also related to outcome were the final diagnostic severity and the type of treatment termination. In summary, patients with a reactive onset, higher energy level, little physically threatening behavior, less severe symptoms, a completed treatment program, and participation in psychotherapy following discharge achieved the better treatment outcome.

Based on their extensive research, Gossett et al. (1984) conclude that among the variables associated with outcome (intelligence, organicity, diagnosis, symptom pattern, age at admission, sex, family functioning, treatment, aftercare, and follow-up), severity of the presenting psychopathology was found to be the most powerful predictor of long-term outcome. Severity of psychopathology is described as, "subjectively distressing, not circumscribed but invades many facets of a person's life, not tolerated by the community, and resistant to treatment" (Barrett, Hampe, & Miller, 1978, p. 430). Notwithstanding, Gossett stresses that patients with long histories of symptomatic functioning in a variety of life areas showed a greater likelihood for a negative outcome than are those presenting with healthier early histories and more recent onset of disturbance.

The Onset of Symptomatology Scale appears to be a prognostic instrument well deserving of further research attention. It provides a quantitative measure of chronicity

of the illness. Additionally, Gossett's research supports the significance of "severity of the illness", that is, diagnosis. Moreover, their research suggests that these two correlates are not independent but rather appear to have a consistent pattern (Gossett, Barnhart, Lewis, & Phillips, 1977). Consequently, utilizing the OSS in conjunction with diagnostic typologies, would provide a parallax view of the antecedents to psychopathology.

Millon's Theoretical Taxonomy

The chronicity and severity dimensions inherent in psychopathology were incorporated in the construction of the American Psychiatric Association 1980 revision of the Diagnostic and Statistical Manual for Mental Disorders. The manual's multiaxial format makes a primary distinction between symptom patterns and the more pervasive and longstanding personality disorders in rendering diagnoses. However, in order to stress empiricism and reduce the subjectivity inherent in taxonomies, DSM-III also assumed an atheoretical approach to etiology. Lacking a theoretical foundation, diagnostic assessment resembled a symptom check list. At this time, the integration of theory and attention to symptom patterns is needed to understand fully the etiology and prognosis of disorders.

Despite purported advantages, Guertin (1977) contends the difficulty with such "empirical medicine" is in the simplification of clinical phenomena. This was evident in the

subsequent proliferation of narrowly based actuarial style studies that characterize DSM-III's definition of psychopathology. Guertin argues that the complex situation of psychopathology calls for the introduction of the more abstract concepts of disease and diagnosis. Herein lies the conflict: The struggle to achieve a balance between empiricism and specificity within an inherently subjective psychiatric taxonomy.

This very issue has been addressed in the integrative work of Theodore Millon (1973; 1981). Contrary to investigators who utilize symptoms as the basis of classification, Millon has established a psychiatric classification by synthesizing diagnosis with the more complete perspective of personality development. Thus, diagnosis is understood within the framework of personality that itself has both a biological and social structure. Furthermore, Millon (1973; 1981) contends that personality traits tend to modify symptom expression and as such, must be considered fully in a comprehensive understanding of psychopathology. This perspective runs counter to the actuarial position which portrays such traits as further complicating an already difficult area (Guertin, 1977; Widiger & Francis, 1985). Millon emphasizes the primacy of personality disorders that previously have held a secondary position among diagnostic syndromes. He considered this "a failure to recognize that personality disorders reflect pathogenic processes that are

identical to those seen in classical neurotic and psychotic states." Millon (1973) defines personality as, "ingrained and habitual ways of psychological functioning that emerge from the individual's entire developmental history, and which, over time, come to characterize the child's 'style'" (p. 4). For Millon, psychopathology is conceived to be a product of the dynamic interaction between individual's capacities to cope and environmental factors. Psychological illness thus represents a dysfunction in the personality's capacity to cope with life's difficulties. It is, therefore, the structure and characteristics of personality which become the foundation for the individual's capacity to function in a mentally healthy or ill way.

Millon's perspective that holds that diagnoses must be understood within the framework of personality, challenges DSM III's categorization of disorders of childhood and adolescence. DSM-III discourages diagnosing children and adolescents with personality disorders. This reluctance is likewise reflected in clinical practice. It has been suggested that with this group more than others, professional judgment (manifest in diagnosis rendered) can be clouded by a wish to protect the juvenile patient and sense of hope in the resiliency of the young.

Lack of clarity in adolescent/child diagnosis is also present in the research. The evaluation of significant emotional disturbance manifest before maturity can be quite

difficult. That is, adolescence is commonly thought of as a time when a certain degree of distress is part of the normal growth process. Traditional psychoanalytic theory posits that adolescence is normally a period of considerable turmoil with ego and affective instability. Gadpaille (1985) states that until recent years, adolescent psychiatric disorders were frequently understood to be determined by and related to developmental issues.

Giovacchini (1973) underscores the difficulty in assessing the extent to which the adolescent clinical profile reflects psychopathology or whether it is simply a manifestation of normal character consolidation. Contemporary theorists have modified this stance and more clearly distinguish adolescent adjustment reactions from character disorders, neurotic, and psychotic disorders. Therefore, it is the developmental aspects of adolescents, not the uniqueness of fundamental psychopathology, that justify a differentiation on psychiatric diagnosis (Gadpaille, 1985).

Pichel (1974) questions the myth of "normal adolescent turmoil." He supports Masterson's (1966) belief that for the symptomatically disturbed, adolescence is only a "way station" on a continuum of psychiatric illness beginning in childhood and leading into adulthood. Yet, the line between "expectable turmoil" and actual psychopathology is a matter of debate (Rutter, Graham, Chadwick, & Yule, 1976). Rutter et al. (1976) state that wherever one falls on the continuum, intense

psychopathology is not considered normative. In their investigation of this phenomenon, a slight elevation in the rate of psychiatric symptoms during early adolescence was identified, but the increase was only moderate. Rutter and colleagues also dispute the assumption that adolescent symptoms are variable, transient, and benign. They found a marked similarity in latency stage onset and adolescent onset psychopathology. In both developmental stages, emotional disorders and conduct disorders were predominant with few psychotic disorders although depression was more common among adolescents. Rutter et al. (1976) concluded that "adolescent turmoil is a fact, not fiction but its psychiatric importance has been over-estimated in the past" (p. 55). More critically, they add, most adolescents do not exhibit psychiatric disturbances.

Tramontana (1980) also alludes to the developmental aspect of childhood psychopathology. In his review of the literature, he concluded that untreated childhood disorders tend to become more severe and chronic by adolescence. As Masterson (1967) stated, symptomatic adolescents tend to become symptomatic adults. However, this developmental perspective runs counter to DSM-III's approach that classifies not individuals but disorders that individuals have. The implication is that psychopathology is a "foreign" entity somehow separate from the individual.

Personality disorders are similarly conceptualized in DSM III, that is, they have become fractionated. Personality disorders are defined as personality traits which have become "inflexible and maladaptive" and impair social or occupational functioning or create "subjective distress". Thus, in an effort to be empirical, DSM-III has de-contextualized personality disorders from a more encompassing developmental perspective. Millon contends that the specifics of the symptoms must not only be considered but also one must attend to variation in maladaptability, duration and pervasiveness, i.e., the developmental context.

Millon's diagnostic groupings are differentiated according to the element of chronicity. The distinguishing aspect among personality patterns, symptom disorders, and behavior reactions is the extent to which the observed pathology reflects ingrained personal traits versus transient situational difficulties. Personality patterns are intrinsic pervasive functioning styles, whereas behavior reactions are specific pathological responses precipitated by and largely attributable to circumscribed external events. Midway on the continuum, are symptom disorders. These are categories of psychopathology that reflect both ingrained personal traits and transient stimulus events. Millon notes that respective prognostic implications are apparent. Behavior reactions are understood to be amenable to environmental manipulations

whereas personality patterns are the most difficult to treat due to their endogenous nature.

For Millon (1981), the critical parameter of personality disorders is the severity of the illness. Millon divides personality disorders into "basic" and "severe" types, according to severity as measured by deterioration in the affective and cognitive domains. Millon describes the following as "basic" personality disorders: dependent personality (the submissive pattern); histrionic personality (the gregarious pattern); narcissistic personality (the egotistic pattern); antisocial personality (the aggressive pattern); compulsive personality (the conforming pattern); passive-aggressive personality (the negativistic pattern); schizoid personality (the asocial pattern); avoidant personality (withdrawn pattern). The "severe" personality disorders are as follows: the borderline personality (the unstable pattern); the paranoid personality (the suspicious pattern); schizotypal personality (the eccentric pattern).

The following diagnoses, which comprise the majority of this study's sample, will be discussed in greater detail. The diagnosis of borderline personality disorder has become as prevalent in the literature as it has in clinical practice. Some argue that the great amount of attention given this diagnosis is related to the complexity of the disorder. For instance, in psychoanalytic literature, borderline diagnosis often refers to a level of personality organization rather

than a specific entity. Millon's perspective categorizes the borderline personality as a most severe variants of personality disorders. This disorder is typified by emotional outbursts, peculiar thinking, and bizarre behaviors. The most salient feature of a borderline is the depth, variability, and unpredictability of mood states. Therefore, Millon contends that the borderline disorder is an affective disorder and suggests "cycloid personality" as a more accurate label. He posits that the borderline pattern is a deterioration of the less severe disorders of dependent, histrionic, compulsive, and passive aggressive personalities. As a diagnostic group, borderlines exhibit a fluctuating mix of both mild and marked pathological features. Primary conflicts are manifest in an endless search for acceptance and approval to augment the patient's own diffuse sense of self (1981).

The borderline personality's affective instability and diminished controls can precipitate episodic Axis-I disorders. A differential diagnosis between Axis-I affective and anxiety disorders with the borderline personality can be difficult if based solely on observable clinical features. The principal difference between the diagnoses lies in the developmental history of the impairment; the borderline pathology having a more insidious onset. A further distinguishing factor is the role of external precipitants, that is, borderline lability is often stimulated by internal processes rather than external events. Millon also describes the ego-syntonic nature of

borderline symptomatology in contrast to Axis I disorders. The prognosis for borderline personalities is serious even with the most prolonged and intensive therapy (Millon, 1981). Nonetheless, treatment is essential with the frequent primary goal of forestalling further decompensation.

Millon diverges from the DSM-III typology, as with the borderline personality disorder, in suggesting an alteration in diagnostic label for the antisocial personality pattern (1981). He perceives "antisocial" to be accusatory and judgmental whereas "aggressive" encompasses the relevant clinical characteristics without the pejorative overtone. He criticizes DSM-III's overemphasis of delinquent acts as a defining characteristic of the disorder. Rather, such behavior is a symptom of a subgroup of this personality pattern not the defining characteristic.

Millon describes aggressive personalities as driven by a need to prove their superiority. This is motivated less from a belief in self-worth as from a mistrust in other. Such personalities are secure only when they are independent of those who they fear may undo, harm, or humiliate them. Millon describes their philosophy as, "'might makes right'- the only way to survive in the world is to dominate and control it" (1981, p. 200). They can project contempt for conventional authority and rules. As a group, aggressive personalities tend to be argumentative and contentious with a low tolerance for frustration. They are easily provoked to attack and most

act out their impulses rather than inhibit action with thought. They show a marked deficit in self insight and foresight and typically are devoid of guilt and remorse for malicious behavior.

Millon (1973; 1981) contends that the prognosis for aggressive personalities is guarded given their basic mistrust in others that interferes with the likelihood of entering treatment. They are unlikely to improve due to their ingrained habits that resist conscious reasoning. In addition, their behavioral style of assertion and domination not only remedies past injustices and may yield material rewards. Millon states that Axis I symptom disorders are not common with aggressive personalities largely because of their refusal to tolerate extended periods of psychic discomfort and frustration. However, Millon notes that it is the quick fending off anxiety along with the immediate discharge of tensions that is characteristic of this group, not a failure to experience tension.

Despite divergences in Millon's theoretically derived diagnostic system and DSM-III, there was a significant parallel. The DSM-III task force concluded that although patients with personality disorders commonly experience dissatisfaction with their functioning level, psychiatric hospitalization is not a general outcome. However, reports did show that among personality disorders, the antisocial, schizotypal, and borderline personalities exhibit higher rates

of hospitalization. Disturbances of mood, often depression or anxiety, are common and frequently the primary complaint. Whereas the other personality disorders rarely require hospitalization unless there is a superimposed disorder, such as, substance abuse or major depression (American Psychiatric Association, 1980). This distinction corroborates Millon's distinction between "basic" and "severe" personality disorders. Millon's typology not only incorporates the fundamental aspects of type of onset of symptomatology and severity and pervasiveness of a disorder, it is also embedded in a well developed theoretical framework. Utilizing his diagnostic schema does not imply neglecting Axis-I. The goal of research, as well of this investigation, is to address the interaction and interplay between both the clinical syndrome and the personality disorder.

Summary and Hypotheses

The treatment of adolescents in hospital facilities has become controversial with the burgeoning hospital programs and record admission rates. Professionals are under increasing pressure to substantiate the validity of treatment decisions. However, there has been a general failure of psychiatry and psychology to produce an adequate predictive classification system. Past efforts to improve empiricism have had a corresponding effect of diminishing the value of diagnosis. Diagnosis stripped of its theoretical underpinnings were rendered little more than labels.

The premise of this investigation is that clinical diagnosis must be central in the understanding of adolescent hospitalization patterns and recidivism, given the prognostic superiority of diagnosis. The specific purpose of this dissertation is to analyze the significance of diagnostic variables as predictors of outcome in a population of psychiatrically hospitalized adolescents within a theoretical context derived from Millon. This investigation will utilize the theoretical taxonomy of Millon who challenged the actuarial practice of perceiving symptom states as discrete clinical entities isolated from the broader context of the individual's personality. In contrast, Millon's basic tenet is that diagnoses must assess not only the patient's current symptom picture (DSM-III, Axis-I) but in addition assess those pervasive features that characterize the enduring personality pattern (DSM-III, Axis-II). Clinicians need to consider the interactive effects of the patient's personality style on the presentation, course, and treatment of axis I clinical syndromes.

Additionally, this study will incorporate the work of Gossett and colleagues who similarly propose the need to understand more fully the dynamics and sequences in which clinical symptoms unfold. Specifically, the study will utilize Gossett's Onset of Symptomatology Scale that provides quantitative measures of the clinical tradition that patients with long histories of symptomatic functioning in a variety

of life areas are more likely to show a negative outcome than are those presenting with healthier early histories and more recent onset of disturbance. The Onset of Symptomatology Scale will provide behavioral and quantifiable data to supplement information inherent in diagnosis. Thus, the scale would function as an additional tool at the disposal of diagnosticians.

The setting of this study was a small psychodynamically oriented adolescent psychiatric inpatient unit within a state facility. It was expected that diagnostic subject variables would be powerful predictors of patients length of stay, disposition, and likelihood of recidivism. Patient diagnoses were applied according to Millon's schema of personality disorders and the traditional DSM-III nomenclature of Axis I disorders. Given the comprehensiveness of Millon's system, primacy was given to diagnoses of personality disorders over Axis-I disorders in categorizing individual patients. The following diagnoses were selected based on their frequency of occurrence. The borderline personality and antisocial personality disorders comprised the two Millon categories. Additionally, a third personality disorder group, labeled "other", was a combination of various personality disorders too few to constitute separate groups. The remaining three diagnostic groups were grouped according to DSM-III as primary affective disorder, schizophrenia, and other psychotic disorders. Related Axis I disorders were grouped in order to

enhance data analysis without diminishing the meaning of the diagnostic groups.

This study was expected to complement other research investigations on the psychiatric treatment of adolescence. A review of the literature revealed that many investigations of the psychiatrically hospitalized are performed in private settings. Unfortunately, this introduces the effects of SES, insurance, mandated lengths of stay, and private financial resources confounding the study of prognosis implications of diagnosis. Additionally, this investigation is expected to contribute to the literature on childhood psychopathology. Given the severity of disturbance in the study sample, it is expected that the validity of chronic psychopathology in an adolescent population would be supported.

Specific hypotheses are as follows:

1. Given the incipient nature of schizophrenia in terms of onset of symptomatology which is often difficult to determine at admission, this diagnostic is expected to be a less cohesive in terms of internal consistency than affective and other psychotic disorders. Additionally, based on Millon's description of the borderline personality disorder as showing traits with various personality disorders, it too is expected to have poor internal consistency when compared to affective and other psychotic disorders. For the purposes of this investigation, the integrity of diagnostic categories

is measured according to within group variance in total time hospitalized.

2. Consistent with the literature on length of stay, it is hypothesized that LOS will be a significant discriminating factor among the six diagnostic groups. Specifically, individuals diagnosed as borderline personality disorders are postulated to have a lengthier hospitalization than all other personality disorders. This prediction is based on Millon's contention that mood depth, variability, and unpredictability are central features of this disorder- all which prolong treatment length. Additionally, it is expected that affective disorders will have a greater length of stay than schizophrenic disorders.
This is based on the documented weak prognosis of adolescent onset affective disorders.

3. According to Millon, the prognosis for antisocial personality disorders is guarded. Consequently, antisocial personality disorders are expected to have higher rates of recidivism, as a measure of prognosis and outcome, than the other personality disorders. In contrast, affective disorders are expected to have the lowest rate of recidivism.

4. It is hypothesized that disorders having a greater biological basis (affective and other psychotic disorders) will have lower Onset of Symptomatology Scale scores than the personality disorders. This postulate predicts a consistency between the dimensions of chronicity and severity as measured

by the OSS and Millon's conceptualization of personality disorders which assumes significant chronicity and severity.

5. With respect to the interaction of Onset of Symptomatology Scale scores and prognosis (defined by length of stay, recidivism rates, and duration between hospitalizations) it is hypothesized that those patients with higher OSS scores will have a greater number of hospitalizations and shorter duration between stays than those patients with lower OSS scores. This is consistent with Gossett et al.'s premise that patients with long histories of symptomatic functioning (i.e., elevated OSS scores) show a greater tendency for a negative outcome than those individuals presenting with healthier earlier histories and more recent onset of disturbance.

6. Based on the research that more recent onset and good premorbid functioning is associated with improved prognosis, it is expected that patients with lower OSS scores will have exhibit more rapid recovery (i.e., prognosis) as measured by shorter length of stays and a greater likelihood of being discharged home than those patients with higher OSS scores.

CHAPTER III

METHOD

Setting

This study was carried out on the Adolescent Community Unit of the Illinois State Psychiatric Institute (ISPI). The Adolescent Community unit is one of three specialized treatment programs in ISPI's Adolescent Psychiatry Division. The Adolescent Community Unit is a 15-bed closed ward designed to provide short and moderate term hospitalization for male and female adolescents from Chicago inner city neighborhoods. The patient population reflects a range of psychopathology and sociodemo-graphic backgrounds. Adolescents admitted to this unit have severe emotional disturbances which are manifest in their being a danger to self or others, their inability to care for themselves, or utilize the care of others. Admission evaluations are performed by clinical teams led by a child psychiatrist. The clinical team includes psychologists, social workers, psychiatric residents, psychology interns and externs, and child fellows.

Subjects

Data were obtained on three years of consecutive admissions to the Adolescent Community Unit from 1981 to 1984. The

patient sample totaled 122 adolescents, with 76 males and 46 females. Age at admission ranged from 12 to 19 years, yielding a modal age of 17. The sample consisted of 39 Whites, 60 Blacks, and 23 Hispanics. Of the 43 subjects with intelligence quotients on record, 42% were within the average range or above and 58% were functioning in or below the low average range. The majority of patients reported their parents as guardians, with 11% listing the state as guardian. Past and current living situations of the subjects ranged from intact families to stepfamilies to institutional living. The predominant living situations were either with both biological parents or with a single parent, and in those cases, it was most likely to be the patient's mother.

Nearly half the sample (52) had prior outpatient treatment and approximately one fifth of the subjects (23) had prior psychiatric hospitalizations. Frequent presenting problems were mild symptomatology consistent with an outpatient population, such as school problems, nervousness, poor self confidence, sensitivity, teases others, or discipline problems at home. However, subjects also reported assaultive/homicidal behavior, psychotic/bizarre behavior, and/or suicidal behavior more accurately reflecting their inpatient status.

Procedure

Data Collection Early in the hospitalization, demographic and clinical information were obtained on each

patient. Two master's level research assistants were responsible for data collection. The assistants were trained and supervised by a doctoral level clinical psychologist. The research team met regularly to review forms for error. Data were collected from the patient's clinical record and from information provided by the social worker assigned to the patient case. Information was recorded on the Research Admission and Discharge Information forms. The Research Admission Information includes and categorizes information from admission materials and clinical notes available during initial days of hospitalization. Variables recorded included; age, sex, race, IQ level, guardian, diagnoses, psychiatric history of subject and family, family history of antisocial behavior and substance use, reason for admission, information regarding prior placements, and subject living arrangements from birth to present. The Research Discharge Information form records length of stay, discharge diagnosis, and disposition.

For those patients hospitalized more than once during the research period, clinical material was taken from the first hospitalization exclusively to avoid contaminating the sample. However, if the initial hospitalization were less than four days, the following admission was considered the treatment hospitalization. In-hospital transfers within a week of admission were not counted as readmissions. Additionally, in several cases, historical information was taken from

subsequent hospitalizations to fill missing values from the treatment hospitalization.

Duration between hospital stays was recorded in weeks. Values between 4 and 7 days inclusive were averaged to an additional week, values between 1 and 3 days were rounded down. Six duration variables were computed, three reflecting durations between hospitalizations prior to the treatment hospitalization and three reflecting durations between later admissions and discharges. This information was made available through accessing the main computer for the Illinois Department of Mental Health (DMH). Under the supervision of ISPI's Director of Medical Records, the author was able to ascertain subject's initial and subsequent contacts (as of 7-27-89) with Illinois public mental health system. It was therefore possible to document readmissions to ISPI as well as the other state public psychiatric hospitals.

Similarly, information regarding patient readmissions subsequent to the treatment hospitalization was taken from the DMH computer file. Since the computer file also revealed prehospitalization, it was possible to compare the number in the patient clinical charts with the value indicated by DMH. In the case of discrepancy, the DMH value was recorded.

The 122 study cases were grouped into the following six diagnostic categories: schizophrenic disorder; affective disorder; other psychotic disorder; borderline personality disorder; antisocial personality disorder; and other

personality disorder. In part, the rationale for establishing these particular categories was based on frequency of occurrence of admitting diagnosis. Additionally, grouping related disorders in diagnostic categories was expected to enhance data analysis without diminishing the meaning of the groups. In those cases of dual diagnoses, the diagnoses of personality disorders took precedence over Axis-I disorders based on the premise, arising from Millon's work, that a determination of personality disorder offers more qualitative clinical information than an Axis-I diagnosis.

Specifically, Axis-I diagnoses were as follows: the affective disorder group (N=18) included diagnoses of major depression, bipolar disorder, and dysthymia; the schizophrenia group (N=12) included all its variants; and, the other psychotic group (N=17) included diagnoses of atypical psychosis, schizophreniform psychosis, brief reactive psychosis, and childhood onset pervasive developmental disorder.

There was a range of diagnosed personality disorders, with the borderline disorder predominating (N=20). This group also included a few identity disorders which according to DSM III, the child/adolescent equivalent to the borderline personality. The second personality disorder group was the antisocial personality (N=18). This group was derived by assuming Millon's developmental perspective in understanding psychopathology and categorizing the numerous conduct disorder

diagnoses as antisocial personality disorders. The remaining group was labeled "other personality disorder" group which included all the remaining personality disorders too few in numbers to warrant a separate category. The other personality disorder group (N=15) was composed of: two patients diagnosed as passive-aggressive personality disorder; two diagnosed as paranoid personality disorder; one patient diagnosed as histrionic personality disorder; one diagnosed as schizoid personality disorder; one diagnosed as avoidant personality disorder; one diagnosed as schizotypal personality disorder; three patients diagnosed as narcissistic personality disorder; and four patients diagnosed as atypical personality disorder.

Twenty-two cases were unclassifiable within this diagnostic configuration and they were as follows: adjustment disorders, attention deficit disorders, overanxious disorders, mental retardation, panic disorders, substance abuse disorders, and schizoaffective disorders. Hence, these subjects were excluded from analyses related to diagnostic groupings but were included in the demographic and family analyses.

Instrument The Onset of Symptomatology Scale measures the process-reactive dimension of psychopathology (Gossett, Meeks, Barnhart, & Phillips, 1976). The term "process" describes psychopathology with an insidious evolution. In contrast, the "reactive" disorders are a maladaptive response to an acute stress. Thus, an essential distinction lies in level of pre-

morbid social competence. Gossett et al. (1976) found the scale was found to be correlated with long-term outcome.

In its original form, the Onset of Symptomatology measured seven factors: psychological trauma, physical trauma, behavior control, academic progress, peer relationships, passivity-aggressiveness, and symptom duration. The patient's hospital record provides the data from which the Onset of Symptomatology is evaluated. Subscales are rated on a five point continuum. Separate scores are added to an overall sum which would then indicate placement on the process-reactive continuum, with higher scores indicating a greater degree of psychopathology. The individual subscales measure distinct dimensions as demonstrated by low intercorrelations with one another.

Interjudge reliability of the Scale was assessed by two experienced clinicians, unfamiliar with the patient sample (Gossett, Meeks, Barnhart, & Phillips, 1976). They independently rated the 50 pilot study patients on the Onset of Symptomatology Scale. The interrater reliability was .79 ($p < .001$). In order to evaluate the prognostic value of the instrument, follow-up information was obtained on study patients in a series of one to three interviews with patients, parents, spouses, and friends. In semi-structured interviews, the patient's mental status, academic functioning, vocational progress, family functioning, marital and child rearing adaptation, interpersonal skills, subsequent psychological

treatment, leisure activities, drug usage, and involvement with legal authorities were evaluated.

The revised Onset of Symptomatology was introduced by Gossett et al. in 1980. It employed only four of the original seven subscales: psychological trauma; school performance; peer relationships; symptom duration. The scoring procedure was unchanged. Kowitt, Sachs, Lowe, Schuller, Rubel, and Ellis (1989) examined the revised scale and found an average correlation of .70 between the four subscales and the total scale. The scale, symptom duration, had the strongest correlation of .80 with long term outcome.

Outcome Variables The primary measure of outcome was the patient's recidivism in the Illinois Department of Mental Health. Recidivism rates are a traditional form of assessment of individual patient's level of functioning. Although accessing the Department of Mental Health records does not guarantee an inclusive accounting of a patient's contacts, typical patients, particularly minors, who enter the public mental health sphere remain there for needed services. Although a few patients might transfer to the private care, it is expected that the numbers would be few and insignificant.

Length of stay in the hospital was a major outcome variable. A related second outcome variable was the patient's duration out between hospitalizations. Both values were recorded in weeks. A final outcome variable was disposition

at discharge. This variable was chosen because of simplicity and practicality. Patients who are able to return to their home and community are generally considered successful treatment cases. Finally, ISPI patient faces a variety of disposition alternatives; home, correctional facility, foster care, psychiatric hospital, medical hospital, residential group home, or residential treatment center.

CHAPTER IV

RESULTS

Description of Sample: The reader is referred to the Method chapter for an initial overview of the sample characteristics. Additionally, descriptive statistics of demographics (age, sex, and race) are presented in Table 1. The Research Admission Form also collected data on the familial incidence of mental illness, substance abuse, and antisocial activities. With respect to family history of delinquent behavior, 6% of the sample reported maternal involvement; 12.3% reported paternal involvement; 13.9% reported sibling involvement. There was an increased presence of psychiatric disturbance in the patients' families; 18.9% of the patients' mothers mentally ill; 7.4% of the fathers were mentally ill; 12.3% of the siblings were disturbed; and 13.9% of the grandparents were disturbed. Finally, 9.8% of the patient sample had mothers with drug and/or alcohol disorders; 23.8% had fathers with such disorders; and 12.3% had grandparents with alcohol/drug disorders.

The Research Admission Form recorded the primary precipitant to hospitalization. Table 2 lists these values by sex and race. As indicated, crosstabs analyses identified

TABLE 1

Demographic Information

Category	N=122
Sex	
Males	62.3%
Females	37.7%
Age	
Mean	15.66 years
Standard Deviation	1.4 years
Ethnic Background	
White	32.0%
Black	49.1%
Hispanic	18.9%

TABLE 2

Research Admission Form:

Reason for Admission

by Sex and Race

Reason	Percentage	*X*-Square
1. Assaultive/homicidal behavior		
Sex: Males	45.9%	
Females	29.5%	2.45
Race: White	44.7%	
Black	42.1%	
Hispanics	26.1%	2.32
2. Psychotic/bizarre behavior		
Sex: Males	59.5%	
Females	57.8%	.00
Race: White	36.8%	
Black	72.4%	
Hispanic	60.9%	12.04**
3. Suicidal behavior		
Sex: Males	37.8%	
Females	62.2%	5.73*
Race: White	50.0%	
Black	41.4%	
Hispanic	56.5%	1.70
4. Other self-damaging behavior		
Sex: Males	14.9%	
Females	9.1%	.39
Race: White	18.4%	
Black	10.5%	
Hispanic	8.7%	1.69
5. Delinquency		
Sex: Males	12.2%	
Females	7.0%	.33
Race: White	13.5%	
Black	12.3%	
Hispanic	0.0%	3.30

(Continued)

Reason	Percentage	X-Square
6. Firesetting		
Sex: Males	6.8%	
Females	0.0%	1.60
Race: White	13.5%	
Black	0.0%	
Hispanic	0.0%	11.29**
7. Chronic Runaway		
Sex: Males	4.1%	
Females	13.6%	2.39
Race: White	13.2%	
Black	7.0%	
Hispanic	0.0%	3.57
8. Inappropriate sexual behavior		
Sex: Males	6.8%	
Females	9.3%	.02
Race: White	8.1%	
Black	10.5%	
Hispanic	0.0%	2.57
9. Severe depressive symptoms		
Sex: Males	28.4%	
Females	39.5%	1.08
Race: White	21.6%	
Black	40.9%	
Hispanic	30.4%	3.64
10. Other		
Sex: Males	19.2%	
Females	7.1%	2.18
Race: White	19.4%	
Black	12.5%	
Hispanic	13.0%	.91

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

significant differences between groups. Significantly more black adolescents were likely to be hospitalized for bizarre ideation or behavior ($p < .01$).

Females were significantly more likely than males to present with suicidal behavior as a reason for a psychiatric admission ($p < .05$). Firesetting was a rare phenomenon and a significant one ($p < .01$) with white adolescents as the only group exhibiting this symptom. Furthermore, age was a factor in hospitalization with younger children hospitalized for firesetting ($p < .01$) as well as chronic runaway ($p < .05$).

Hypothesis Testing

Hypothesis 1:

It was postulated that among the diagnostic groupings, the schizophrenic and borderline disorders would reflect the lowest internal consistency. That is, lacking cohesion as a group, they would exhibit greater within group variance than the affective or other psychotic disorders. For the purposes of this investigation, "variance" was defined as variation within each diagnostic category in total time spent in a psychiatric hospital (excluding current hospitalization). An examination of the individual diagnostic groups' standard deviations provided a measure of variability, that is, an index of how different the various cases are from each other as well as how they differ from the individual group mean. Table 3 lists the means and standard deviations for each diagnostic group.

TABLE 3

Total Time Hospitalized

by

Diagnostic Categories

Diagnostic Group	Range	Mean	SD	F
Schizophrenic	0-12 months	5.25	4.86**	3.93
Other Psychotic	0-1 months	.18	.40	
Affective Disorders	0-2 months	.33	.71	
Borderline P.D.	0-9 months	2.53	2.92	
Antisocial P.D.	0-13 months	3.20	5.54	
Other P.D.	0-5 months	1.00	1.76	

**$p<.01$

The findings offer partial support to the first hypothesis. The diagnostic category of antisocial personality reflected the greatest within group variance. However, schizophrenic disorders had next greatest within group variance followed by the borderline disorders. Further hypothesis testing with a oneway analysis of variance yielded significant findings with $F(5,52) = 3.93$, $p < .01$, with the schizophrenic category achieving between group significance. Thus, although the schizophrenic group had considerable within group variance, it was significantly distinct from the other diagnostic categories.

Hypothesis 2:

The second hypothesis stated that the length of hospital stay would be a significant discriminating factor among the six diagnostic groups. Specifically, the affective disorders would have a longer length of stay than the schizophrenic disorders. Additionally, it was speculated that borderline personality disorders would have a greater length of stay than the other personality disorders. Analyses of the first hypothesis revealed differences in total LOS between these diagnostic groups. However, oneway analysis of variance was employed in order to assess whether these groups deviated in significant ways for the treatment LOS.

Oneway analysis of LOS by diagnostic grouping failed to reveal a significance $F(5,79) = 1.33$, $p > .26$ as indicated in Table 4. However, further analysis with the Cochrans C test for homogeneity of variance indicated that the sample variances were unequal (Cochrans C =.2479, P =.248), violating the major assumption for applying ANOVA's. Given the dissimilarity of sample sizes of the diagnostic groups, non-parametric tests were employed.

A Kruskal-Wallis one-way analysis of variance was applied since its based on order features of the data and does not depend on homogeneity of variance. The value of the Kruskal-Wallis statistic, corrected for ties, was a Chi-square of 5.95 and a nonsignificant value of $p < .31$. As indicated by Table 4, the diagnostic groups do not exhibit significantly different LOS patterns despite varied group means.

Hypothesis 3:

The third hypothesis suggested that patient recidivism rates would constitute a discriminating factor among the diagnostic groups. Specifically, it was expected that the antisocial personality group would have greater recidivism than other personality disorders. Additionally, affective disorders were predicted to have the lowest recidivism of all groups. A oneway analysis of variance failed to reach significance, although it did suggest a trend with $F(5,94) = 2.18$, $p < .10$. Table 5 lists the findings. The Cochrans C test had a value of .37, $p < .004$ (nonparametric testing).

TABLE 4

Length of Stay

by

Diagnostic Groups

Diagnosis	Range	Mean	SD	F
Schizophrenic	2-125 weeks	48.50	40.55	1.34
Other Psychotic	2-127 weeks	46.42	45.00	
Affective	8-256 weeks	76.47	76.94	
Borderline P.D.	2-335 weeks	81.44	86.70	
Antisocial P.D.	2-249 weeks	79.75	66.89	
Other P.D.	2-115 weeks	36.93	37.10	

TABLE 5

Recidivism Rates

by

Diagnostic Groups

Diagnosis	Range	Mean	SD	F
Schizophrenic	0-26	6.75	7.51	2.18
Other Psychotic	0-12	2.00	3.28	
Affective	0-07	.78	1.83	
Borderline P.D.	0-17	2.20	4.81	
Antisocial P.D.	0-26	3.28	7.80	
Other P.D.	0-08	3.00	2.93	

Kruskal-Wallis oneway ANOVA revealed a significant finding with a chi square value of 18.13, $p < .01$ with the schizophrenic diagnostic group exhibiting the greatest recidivism.

As a corollary analysis to this hypothesis, a Kruskal-Wallis nonparametric oneway ANOVA was preformed on the number of previous hospitalizations across diagnostic groups. Although the chi-square value of 10.05 is not significant, it does suggest a $p < .10$ trend with the borderline diagnostic group having a greater number of prior hospitalizations.

Hypothesis 4:

It was postulated that affective disorders and other psychotic disorders would have lower Onset of Symptomatology scores than personality disorders. The reader is reminded that the scale is rated on a continuum with higher scores reflective of more serious dysfunction. In order to strengthen the analyses, by way of increasing cell size, a varimax rotation factor analysis was performed on the OSS to assess its underlying dimensions. This procedure reduced the four scale instrument into two independent and interpretable factors. The first factor is essentially equivalent to the OSS subscale, psychological trauma. The second factor is an amalgamation of the remaining three OSS subscales, school performance, peer relationships, and symptom duration. Factor 1 (psychological trauma) accounts for 51.6% of the total

variance and Factor 2 (symptom manifestation) explains the remaining 48.4%.

The oneway analysis of variance revealed no significant differences among the diagnostic groups in OSS scores. However, there was evidence of a nonsignificant trend with Factor II (symptom manifestation), $F(5,50) = 2.06$, $p < .10$. Table 6 offers a listing of the diagnostic groups' OSS means.

Hypothesis 5:

It was postulated that patients with higher Onset of Symptomatology scores would have a greater number of rehospitalizations, in terms of the actual number of admissions, as well as briefer durations out between hospitalizations, than those patient with lower Onset scores. A correlation analysis revealed no significant effects for either readmission or length of duration out between hospitalizations with OSS Factor I (psychological trauma) or Factor II (symptom manifestation).

Corollary analyses utilizing the variable, Total-Time hospitalized as a measure of severity of disturbance, along with OSS Factor II, yielded a significant correlation with $r(N=39) = .45$, $p < .01$. Thus, higher OSS scores were associated with lengthier total time hospitalized. Additionally, the strength of relationship increased to $r(N=38) = .59$ ($p < .001$), if one unusually deviant case (greater than 35 months hospitalized) was excluded from the analysis. Further

TABLE 6

Onset of Symptomatology Scores

by

Diagnostic Groups

Diagnosis	OSS	Range	Mean	SD	F
Schizophrenic	Factor I	4-4.0	4.00	.00	1.15
	Factor II	3-12.0	8.40	4.51	2.06
Other Psychotic	Factor I	2-4.0	2.67	1.03	
	Factor II	1-11.0	4.50	3.51	
Affective	Factor I	2-4.0	3.58	.79	
	Factor II	1-9.0	4.27	3.00	
Borderline P.D.	Factor I	0-4.0	3.08	1.51	
	Factor II	2-10.0	4.75	3.11	
Antisocial P.D.	Factor I	2-4.0	3.25	.97	
	Factor II	5-10.0	7.09	1.81	
Other P.D.	Factor I	0-4.0	3.55	.43	
	Factor II	0-10.0	5.45	3.29	

OSS Factor I= Psychological Trauma
Oss Factor II= Symptom Manifestation

correlation analysis did not support an association between number of prior admissions (i.e., previous to study's admission) with either OSS Factor I (psychological trauma) or OSS Factor II (symptom manifestation).

Hypothesis 6:

The final hypothesis predicted a significant relationship between patients Onset of Symptomatology scores and their current length of hospitalization and moreover, the likelihood of being discharged home versus elsewhere. A correlation analysis for LOS and OSS scores failed to achieve significance. However, there was a nonsignificant trend for patient length of stay and OSS Factor II (symptom manifestation) with $r(63) = .18$, $p < .10$. ANOVA's for OSS scores and discharge setting revealed no significant effects, $F(1,61) = 1.73$ for OSS Factor I (psychological trauma) and $F(1,58) = 1.03$ as well as for OSS Factor II (symptom manifestation). Further analysis indicated that nor was discharge planning influenced by diagnostic categories. The crosstabulation analysis that is presented in Table 7 yielded a nonsignificant finding with chi-square(5) =7.4.

Exploratory Analyses:

As discussed in the preceding section, hypotheses testing generated mixed results. While clinical variables do appear to influence such treatment decisions as admission, LOS, and discharge planning, these variables do so in a manner that is

TABLE 7

Diagnostic Groups

by

Discharge Destination

Diagnosis	DC Home	DC Non-Home
Schizophrenic	50%	50%
Other Psychotic	83%	16.7%
Affective Disorder	73%	26.7%
Borderline Personality	44.4%	55.6%
Antisocial Personality	75.%	25%
Other Personality	57.1%	42.9%

not ostensible. A number of exploratory analyses were pursued with the goal of better clarifying their association.

A fundamental feature in the research project was the integrity of diagnostic categories as prognostic indicators. As might be expected if groupings had questionable validity, this renders the later analyses dubious. To assess the integrity of the diagnostic groups, a crosstabulation was completed for diagnosis and reason for admission. Significant findings are reported in Table 8.

A principal component factor analysis with varimax rotation was performed in order to explore the presence of symptom clusters. The analysis yielded nine factors, and based on factor loadings accounting for greater than .40 of the variance, were identified as: aggressivity; anxiety; behavior excesses; shy; somatic; thought disorder; attention deficit; academic problems; gang activities. Symptom check list is referenced in Appendix A.

Subsequent analysis with a Kruskal-Wallis one-way ANOVA, explored the relationship of the "symptom-factors" with diagnostic categories. This yielded significant findings with symptom-factors depicting aggressive behaviors related to the antisocial personality disorder, chi-square(5) =19.53, $p < .01$, and the symptom-factor of delusional/hallucinates correlated with both schizophrenic as well as other psychotic disorders with chi-square(5) =15.50, $p < .01$. Table 9 presents a listing of the values. The reader is reminded that patients were

TABLE 8

Reason for Hospitalization

by Diagnosis

Diagnosis	Assaultive	Psychotic	Runaway	Sexual Deviance
Schizophrenia				
N=12 present:	9	9	0	0
Other Psychotic				
N=14 present:	2	14	0	0
Affective				
N=18 present:	5	11	1	0
Borderline				
N=20 present:	8	9	5	5
Antisocial				
N=18 present:	8	8	2	1
Other Personality				
N=14 present:	5	10	0	2
	37*	61*	8*	8*

* $p < .05$

coded with a #1 if the symptom was present and a #2 if the symptom was absent.

As a further analysis, the prognostic utility of the symptom factors was assessed against the outcome variables; LOS, readmission, and total time hospitalized. Correlation analyses yielded a number of significant findings as listed in Table 10. In addition to the reported findings, nonsignificant trends ($p < .10$) were observed with LOS and the symptom factors of aggressivity, shy, thought disorder, and gang activities. The symptom factor depicting gang activities was also insignificantly related ($p < .10$) to readmission rates.

TABLE 9

Symptom-Factors

by Diagnostic Groups

Symptom Factor	Diagnosis Mean Rank		Chi-Square
1. Aggressivity	17.92	Antisocial P.D.	19.53**
	38.06	Borderline P.D.	
	44.77	Other P.D.	
	45.46	Other Psychotic	
	48.00	Schizophrenic	
	55.00	Affective	
2. Anxiety	36.08	Other Psychotic	1.71
	39.81	Affective	
	41.78	Schizophrenic	
	41.85	Antisocial P.D.	
	41.89	Borderline P.D.	
	47.92	Other P.D.	
3. Behavior Excesses	33.62	Other P.D.	3.98
	36.78	Borderline P.D.	
	41.62	Other Psychotic	
	43.22	Schizophrenia	
	46.46	Antisocial P.D.	
	48.13	Affective	
4. Shy	27.78	Schizophrenia	5.64
	35.77	Other Psychotic	
	42.73	Other P.D.	
	43.16	Affective	
	44.17	Borderline P.D.	
	42.73	Antisocial P.D.	
5. Somatic	34.88	Affective	4.13
	39.15	Other P.D.	
	39.83	Borderline P.D.	
	40.77	Other Psychotic	
	46.89	Schizophrenic	
	51.31	Antisocial P.D.	

(Continued)

6. Thought Disorder	26.77	Other Psychotic	15.50**
	34.00	Schizophrenia	
	38.54	Other P.D.	
	39.19	Affective	
	43.69	Antisocial P.D.	
	58.50	Borderline P.D.	
7. Attention Deficit	37.23	Other P.D.	1.98
	37.56	Affective	
	38.89	Schizophrenia	
	42.46	Other Psychotic	
	44.69	Antisocial P.D.	
	46.39	Borderline P.D.	
8. Academic Problems	32.31	Other P.D.	5.82
	35.89	Personality P.D.	
	38.89	Schizophrenia	
	45.00	Other Psychotic	
	47.06	Affective	
	49.92	Antisocial P.D.	
9. Gang Activities	35.00	Affective	5.37
	35.38	Antisocial P.D.	
	38.56	Schizophrenia	
	42.31	Other Psychotic	
	43.15	Other P.D.	
	51.39	Borderline P.D.	

**$p < .01$

TABLE 10

Symptom Factors

as Predictors of Outcome

Symptom Factor	LOS	Readmission	Total Hospital
1. Aggressivity	-.16	-.09	-.22*
2. Anxiety	-.26*	-.10	-.26*
3. Behavior Excesses	.08	-.18*	.08
4. Shy	-.15	-.12	.14
5. Somatic	-.15	.04	.11
6. Thought Disorder	-.15	-.37**	-.05
7. Attention Deficit	.14	-.00	-.37**
8. Academic Problems	-.08	.10	.03
9. Gang Activities	-.15	.17	.26*

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

CHAPTER V

DISCUSSION

The purpose of this investigation was to evaluate the assumption that diagnostic variables would imply prognosis and predict treatment patterns. It is commonly accepted that symptomatology patterns constitute the foundation of a taxonomy. Indeed, Freud contended that, "symptoms give us our bearings when we make our diagnosis" (1916-1917, p. 271). Unfortunately, one cannot make that assumption with childhood psychopathology. As A. Freud stated, "symptom formation in childhood does not necessarily carry the same significance which it has in adult life. . . although symptoms in children sometimes are lasting and have to be regarded as the first sign of permanent pathology, this is by no means always the case. In many instances, symptoms are no more than transient manifestations of strain. . ." (1969, p. 41). Thus, the already convoluted relationship between diagnosis, prognosis, and treatment is further clouded when the incidence of psychopathology occurs before maturity.

A review of the literature reveals a theoretical dispute in the assessment adolescent psychopathology. Most agree that adolescent development phase constitutes some disruption in

the relatively undisturbed psychological growth seen in childhood. Theoreticians diverge in determining which behaviors are considered "normative." Traditionally, adolescent manifestations were thought to resemble outwardly a number of mental illnesses, including neurotic, psychotic, or borderline disorders (Freud, A., 1959). Contemporary theory is less inclined to view adolescent turmoil as the "expected" developmental manifestation, but to treat such disturbances as a psychiatric disturbance. However, even within this group there is a reluctance to diagnosis adolescents with the more serious pathologies, but rather to identify problems as more mild "adolescent adjustment disorders". Theoretical position notwithstanding, there is general agreement that differential diagnosis between the transient phenomena and true pathology is complex.

Differentiating criteria have become a highly sought outcome of adolescent research (Blos, 1979). Attention has focused on the inherent problems with our system of classification rather than merely assuming a lack of integrity of clinical diagnoses. This investigation, in order to address fully its basic tenet that diagnostic variables function as predictors of outcome, utilized the broad taxonomy of Millon. Millon contends that diagnoses should be grounded in a theoretical framework. Hence, the importance of diagnostic categories lies in their capacity to suggest characteristics beyond the immediately observed.

Millon is critical of DSM III's atheoretical position wherein psychopathology is viewed as foreign and isolated from the individual. He understands diagnosis embedded within the framework of personality that itself has both biological and social facets. It is the structure and characteristics of personality that become the foundation for the individual's ability to function in a mentally healthy or pathological manner. Therefore, accurate diagnosing entails not only assessing the patient current symptom picture via DSM-III's Axis I, but the also the pervasive features that characterize enduring personality patterns via Axis II.

As Millon addressed the variation in symptom maladaptivity, duration, and pervasiveness, the Onset of Symptomatology Scale measured the severity and chronicity of the psychiatric disturbance (Gossett, Meeks, Barnhart, & Phillips, 1976). Gossett et al. emphasized the historical facets of current psychopathology. They identified the need for a more complete understanding of the dynamics and sequences through which clinical symptoms unfold. The Onset of Symptomatology Scale provides a quantifiable and behavioral measure of this theoretical construct. Thus, the scale would function as an supplementary tool for diagnosticians. To assess the prognostic utility of various diagnostic categories, this investigation made a number of predictions as measured by the outcome variables of: length of stay, recidivism rates, number of prior hospitalizations, duration between hospitalizations,

and discharge destinations. Additionally, incorporating both Millon's taxonomy as well as the clinical dimensions of Onset of Symptomatology Scale, hypotheses were articulated based on the severity of the illness.

The initial hypotheses predicted that affective and other psychotic disorders would constitute a more cohesive diagnostic category than either the borderline personality or schizophrenic disorder with respect to a consistency within diagnostic groups, in total time psychiatrically hospitalized. Given the incipient nature of the schizophrenia which is often difficult to confirm at time of admission, it was expected that there would be a number of "misdiagnosed" (either over-diagnosed or under-diagnosed) cases. Additionally, given the sample's age of early to late adolescence, clinical theory holds that the schizophrenic process would still be evolving and thus difficult to determine. The borderline personality disorder, as described by Millon, is actually a manifestation of the deterioration of several personality disorders. Consequently, this particular personality disorder can be difficult to distinguish from others given its varied features. Additionally, DSM cautions against diagnosing personality disorder in patients younger than 18 years given the plasticity of the immature personality.

Differential diagnosis is further complicated since many characteristics of various personality disorders can be manifest in Axis I disorders. Thus, diagnosticians may have

rejected a borderline personality diagnosis in favor of more florid Axis I disorders. The diagnosis of a personality disorder should be made only when the features are reflective of the individual's long term functioning and are not limited to discrete episodes of illness. Such a distinction is often difficult to ascertain at admission. Moreover, rendering a diagnosis of personality disorder involves a judgment about characteristics that are also typical of normal individuals. Thus, frequently it is not the clinical features per se which are at issue, but the intensity and disruptiveness of the traits.

While personality disorders are typically defined by inferred traits than by clearly observed behaviors, there is less uncertainty with the diagnosing and treatment of affective disorders. Consequently, it was assumed that there would be less variability within the affective disorder diagnostic category. As predicted, affective and other psychotic disorders exhibited the most consistency in terms of the total time hospitalized. This supports the structural integrity of these diagnoses, especially the affective disorder. It also suggestive of the more rapid treatability of these biologically based disorders, given their shorter overall length of stay. This is likely also the result of increasing sophistication in the field of psychopharmacology.

Analyses indicated that despite considerable variance within the diagnostic category, the schizophrenic group is distinct from all other groups. Thus, while there is a range with such a diagnosis, there are unique characteristics defining the schizophrenic pathology, which sets it apart from other diagnoses. This phenomena is consistent with the literature, in that schizophrenia is understood to be the "ultimate in psychological breakdown" (Coleman, 1980). An unexpected finding was the antisocial personality group significant variability. It is thought that this finding reflects a study artifact, since conduct disorders were classified as antisocial personalities. There is typically a substantial range within and across the conduct disorder diagnoses, ranging from mild disturbances to seriously deviant behaviors. Additionally, there is considerable professional subjectivity in the phenomenon, "medicalization of deviance" (Weithorn, 1989). That is, some professionals opting to treat delinquent behaviors in the legal forum rather than the medical forum.

The second hypothesis postulated that current length of stay would function as a discriminating factor among diagnostic categories. Specifically, affective disorders were expected to have a lengthier LOS than schizophrenics and borderline personalities longer than other personality disorders. This postulation was based on the problematic treatment of early onset affective disorders in contrast to

more successful treatment largely through the use of psychotropics with psychotic disorders. Additionally, based on Millon's categorization, the borderline personality disorder as a most serious variants, would likely have a more prolonged treatment course. Borderline personality disorder has as its central feature, depth, variability, and unpredictability of mood states- all which counter speedy discharges.

Analyses failed to support the second hypothesis. A possible contributing factor to this failure is the number of factors involved in discharge planning of which "patient clinical status" is only one. Since the study's population is from a public facility and mandated to serve the indigent, the effects of private insurance were minimal. However, there were a number of other constraints, such as the readiness and availability of the family for post hospitalization treatment planning. In fact, patients diagnosed as borderline personalities or schizophrenics had the greatest percentage of out of the home placements following discharge. There is a strong likelihood that placement arrangements would have prolonged these patients LOS and thus masked a LOS discrepancy based on clinical attributes.

The third hypothesis addressed the rate of recidivism as a distinguishing variable among diagnostic groups. Specifically, antisocial personalities were thought to have higher rates than other personality disorders and moreover, that the affective disorder would have the lowest recidivism

rate of all groups. The high recidivism rate of antisocial personalities was expected based on the commonly held position that, they are frequently intractable to treatment (Millon, 1981). Consequently, it was thought that antisocial personalities would not make good use of their hospitalization and would be prone to readmissions. However, this hypothesis failed to receive support. Analysis revealed that the schizophrenic diagnostic group has the greatest readmission rates. It may be that multiple prior admissions (given relevant symptoms) in fact contributed to the likelihood of a patient receiving a diagnosis of schizophrenia. That is, previous hospitalizations at a young age (given relevant symptoms) would tend to rule out certain other psychotic disorders (e.g., brief reactive, schizophreniform). In terms of the lower recidivism rate of antisocial personality disorders, it is likely that after failed psychiatric hospitalizations, these individuals who continue to behave in deviant manners are referred to the courts and leave the psychiatric arena, temporarily, if not permanently.

The fourth hypothesis posited that affective and other psychotic disorders would have lower Onset of Symptomatology scores than personality disorders. Analyses partially supported this prediction with affective disorders and other psychotic disorders scoring the lowest on both OSS factors. A nonsignificant trend was found with the schizophrenics having higher OSS Factor I and II scores. This supports the

literature which holds that schizophrenia suggests not only endogenous but environmental factors as well. Research documents the presence of early psychic trauma and consequently, increased vulnerability to behavior disturbances (Coleman, Butcher, & Carson, 1980). This parallels the construction of the OSS scale that addresses both the incidence and severity of psychological trauma as well as the pervasiveness of behavioral dysfunction.

It was postulated that those patients with higher OSS scores, indicating a more chronic disturbance, would have more frequent psychiatric admissions as well as briefer durations between hospitalizations. While analyses failed to support this hypothesis, with respect to previous and subsequent admissions, there was a significant relationship between total time hospitalized and OSS Factor II (measures severity and chronicity of manifest pathology). Thus, it appears that the more chronic and disturbed children do indeed spend the lengthiest amount of time hospitalized. Given that children and adolescents come in daily contact with school authorities who serve as regulating agents, that once a youngster becomes too disruptive, they are typically referred for an evaluation.

The final hypothesis that predicted a relationship between OSS scores with current LOS as well as with discharge destination did not receive support. It may be that it is not the severity or chronicity of disturbance, as measured by the OSS, that influence LOS and discharge plans, but rather the

manner in which the patient is adversely impacting on his environment. Thus, the withdrawn patient who "suffers silently" despite significant disturbance may have a shorter LOS and return home compared to the disruptive or aggressive patient with a similar level of psychiatric disturbance.

Notwithstanding the mixed results in hypotheses testing, analyses are strongly supportive of the appropriateness of the patient group's admission to a psychiatric hospital. Consistent with the mental health field in the public arena, where typically demand for services far exceeds supply, patients' were hospitalized for the most severe symptomatology. Nearly 40% of the sample was admitted due to assaultive and/or homicidal behavior; 57% were admitted with psychotic and bizarre symptomatology; and 47% with suicidal behaviors. Circumstances surrounding patient readmission to the hospital were also strikingly parallel to strictest admission criterion, with danger to self/others or presence of acute psychotic symptomatology as the predominant precipitants to rehospitalization. Thus, despite the findings suggesting a different allocation of resources based on demand, treatability, and prognosis, it can be assumed that the need for psychiatric services was well documented.

The findings of this investigation are seen as contributory to the literature. Firstly, it supports the criticism that diagnostic categorization is not without flaws. Notwithstanding, diagnosis can aid in establishing some basic

guidelines for LOS and discharge plans at time of admission. As previously mentioned, this is especially critical given the limited resources in the public sector. For instance, as a group those patients diagnosed as borderline personalities presented a considerable drain on resources in terms of extended LOS, multiple admissions, and need for special residential placements. Given this profile, intake workers could identify these patients at admission, and formulate a treatment plan which would limit the costly inpatient stay and facilitate a transfer to a residential placement. In this less intensive setting, both in terms of staff utilization and financial cost, the patient could stabilize and focus on more long term planning.

Secondly, the findings are encouraging with regard to the integrity of the affective disorder diagnostic category which may in part be related to the commonly accepted treatment protocol, i.e, use of psychopharmacology. In contrast, findings were less encouraging regarding the antisocial category and raises the question of their corrigibility in traditional treatment. The diagnostic category placed amongst the highest in increased LOS and number of prior and subsequent psychiatric admissions. The dismal treatment ratings seem in part related to the lack of cohesion to the diagnostic category. It is likely that the blurred differentiation between psychiatric and legal handling of such

disorders, even further exacerbated when dealing with minors, contributed to the discouraging findings.

This investigation's exploratory analyses offer direction for future research. It appears that fundamental dimensions of psychopathology revolve around symptom clusters of aggressivity, thought disorder, anxiety disorders, behavioral excesses, shy/withdrawn behaviors, and somatic complaints. These dimensions, in some cases, parallel this investigation's diagnostic groupings. Additionally, this supports Millon's focus on the contribution of underlying affective and cognitive dysfunction in the manifestation of personality disorders.

Further research is needed to clarify better what appear to be very useful predictors of adolescent hospitalization and recidivism. Both of the classificatory systems utilized in this study, the Onset of Symptomatology Scale and DSM-III system supplemented Millon's theoretical underpinnings, associated the severity of psychopathology and the acute/process nature of the illness as fundamental to prognosis and outcome. Increased commitment to the identification and prevention of psychiatric disturbances requires an emphasis on the early detection of premorbid signs. For the most part, this study supported the duality of good premorbid adjustment and positive prognosis. A variable that would likely add further clarification to this phenomena would be the manner in which the psychological

distress is manifest, that is, whether it is largely internalized or externalized. Implications were discussed with respect to treatment decisions. The generality of this study would be enhanced with research on private hospitals whose population vary in terms of socioeconomic status, diagnostic range, and variability in early environmental trauma. Finally, the promising findings of this study are encouraging for further research in both the private and public mental health field given the burgeoning specialty of adolescent psychiatry.

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APPENDIX A

RESEARCH ADMISSION FORM:

PRESENTING SYMPTOM CHECKLIST

1. Does not do as well in school as he could; does not work up to his ability.
2. Specific learning disabilities (reading, math, etc.).
3. Reported history of hyperactivity (immaturity, short attention span, impulsivity, restlessness).
4. Enuresis.
5. Is nervous, highstrung, or tense.
6. Lacks self-confidence.
7. Is touchy, sensitive: easily upset or feelings easily hurt.
8. Very shy with people: tries to get away from them or seems uncomfortable with them.
9. Stays by himself even when there are other people he could be with: withdrawn.
10. Has sleeping problems (sleeping too much, problems falling asleep at night, middle insomnia, or early morning awakening).
11. Lacks energy or easily fatigued.
12. Hears or sees things that are not there.
13. Reports odd or bizarre ideation, or delusional thinking (somatic, religious, persecutory, etc.).
14. Is a discipline problem at home: disobeys and defies parents, is rebellious and unmanageable.
15. Is truant.
16. Is a discipline problem in school: gets in trouble with school authorities.
17. Teases, provokes, or annoys others.
18. Hits, fights, or bullies others.

19. Persistent liar.

20. Has been involved in gang activities.

21. Sexual promiscuity.

22. Drug abuse.

23. Alcohol Abuse.

24. Eating disorder (anorexia, bulimia, excessive eating).

25. Physical problems without known medical cause: headaches, stomach aches, nausea, problems with eyes, etc.).

26. Other (specify).

APPROVAL SHEET

This dissertation submitted by Mary Gonzalez Jaworski has been read and approved by the following committee:

Dr. John Shack, Director
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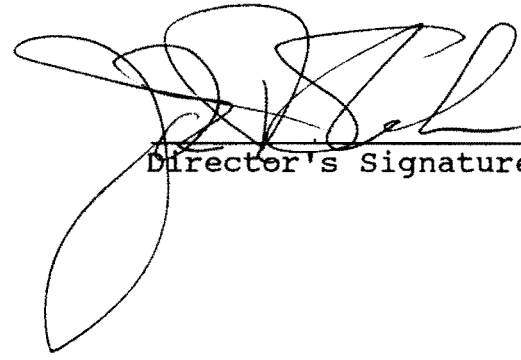
The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the committee with reference to content and form.

This dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

10-8-90
Date



Director's Signature