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## The Prevalence of Childhood Depression Among 6-11 Year Old Boys Seen by a Community Mental Health Center

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THE PREVALENCE OF CHILDHOOD DEPRESSION AMONG 6-11 YEAR OLD BOYS  
SEEN BY A COMMUNITY MENTAL HEALTH CENTER

by

Fred M. Kerman

A Thesis Submitted to the Faculty of the Graduate School  
of Loyola University of Chicago in Partial Fulfillment  
of the Requirements for the Degree of

Master of Arts

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## VITA

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He has coauthored one publication:

Carey, R.G., Johnson, H., and Kerman, F. Improvement in employee morale linked to variety of agents. Hospitals, Journal of the American Hospital Association, 1976, 50, 85-90.

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## INTRODUCTION

### HISTORICAL PERSPECTIVE

The topic of child depression attracted very little attention before the 1960's as evidenced by the lack of literature on the topic (Bemporad, 1978; Rie, 1966) and was largely ignored in most authoritative textbooks in psychiatry (Cambell, 1955; Cytryn & McKnew, 1974; Toolan, 1974). A notable exception to the scarcity of reports on childhood depression during this period was an issue of Nervous Child published in 1952 that was devoted entirely to this topic. Ernest Harms edited the issue and felt that expanding the concept of manic-depression to include juvenile forms was a "serious challenge to the present autocratic opinion of academic psychiatry" (Harms, 1952b, p.326).

Anthony and Scott (1960) reviewed the literature and uncovered 28 articles reporting cases of prepubertal manic-depressive psychosis during the period 1884-1954. The case report was the primary method of investigation used in this research.

The successful use of antidepressant medication to treat depressive illness in the 1960's stimulated attempts to identify "childhood depression" and test the therapeutic efficacy of these drugs in a younger population. Eva Frommer (1968) gave considerable impetus to this approach with a comprehensive article describing a five year compilation

of case material on 190 depressed children attending an outpatient psychiatric department in a general teaching hospital. The literature on the use of antidepressant medication with depressed children has continued to grow and has recently been augmented by case reports and pilot studies on the use of lithium carbonate with this population (Annell, 1969; Frommer, 1968; Gram & Rafaelsen, 1972; Puig-Antich, 1978; Rappaport, 1977).

While clinical descriptions and case reports continue to be accumulated, the 1970's have witnessed a dramatic increase in the literature on childhood depression with an "overview" (Welner, 1978), "critique" "critique" (Lefkowitz, 1978), "discussion" (Brandes, 1971), "explanation" (Brumback, 1977) and "perspective" (Malmquist, 1971a,b) providing a theoretical framework. The research team of Cytryn and McKnew in Washington, D.C. and Weinberg and Brumback in St. Louis have conducted systemic studies with children in inpatient and outpatient settings respectively (Brumback, Dietz-Schmidt & Weinberg, 1977; Brumback & Weinberg, 1977a, 1977b, 1977c; Cytryn & McKnew, 1972, 1974; Cytryn, McKnew & Bunney, 1980; Cytryn, McKnew, Logue & Desai, 1974; McKnew & Cytryn, 1973; McKnew, Cytryn, Efron, Gershon & Bunney, 1979; McKnew, Cytryn & White, 1974; Weinberg, 1974; Weinberg & Brumback, 1976; Weinberg, Rutman, Sullivan, Penick & Dietz, 1973).

Research into childhood psychopathology utilizing factor analytic techniques has produced factors that the authors have labeled depression (Achenback & Lechar, 1979; Arnold, 1974; Wirt, 1978) and the revised Comprehensive Textbook of Psychiatry/II has a section under "Child

Psychiatry: Neurotic Disorders" on depression (Anthony, 1975). In addition, the Manual of Child Psychopathology contains a 44 page article on "Depressive Phenomena in Children" (Malmquist, 1972) and the Second Edition of the American Handbook of Psychiatry has an article on depression in both the Child Psychiatry (Solnit, 1974) and the Adolescent Psychiatry sections (Toolan, 1974a).

Since the publication of Harm's edited issue of Nervous Child, three monographs have appeared on the topic of childhood depression. The first contained the Proceedings of the Fourth Congress of the Union of European Pedopsychiatrists that took place in Stockholm on August 30-September 3, 1971 where the theme was Depressive States in Childhood and Adolescence (Annell, 1971). The second, Depression in Childhood: Diagnosis, Treatment and Conceptual Models, contained papers and discussions of the papers presented at a conference on childhood depression in Washington, D.C. on September 19-20, 1975 that was sponsored by the National Institute of Mental Health (Schuldebrandt & Raskin, 1977). The most recent, Depression in Children and Adolescents, contained papers presented at a conference held in Berkley, California on June 11-12, 1976 that was sponsored by the Child Psychiatry Section of the Department of Psychiatry and the Department of Postgraduate Medicine of the University of California, Davis, in cooperation with the Extended Programs in Medical Education of the University of California at San Francisco (French & Berlin, 1979). These conferences indicate a burgeoning interest in the topic, however the title of an overview of the NIMH conference "Depression in Children: Fact or Fallacy" (Raskin, 1977) accurately describes the theoretical battle that is still being waged.

There have been several hypotheses advanced as to the reason for the paucity of literature and attention paid to childhood depression. Bakwin (1972) suggests that children are themselves unaware of the meaning of depression and do not complain about it. Most adults find exposure to a child's emotional pain as expressed in depression painful to experience and deny its existence and may take active steps to convince the child that indeed he is not unhappy (Cytryn, 1977). Another reason is that children are usually brought in for evaluation for symptoms that are distressing to others, but rarely for symptoms that distress them (Katz, 1972).

The predominant psychoanalytic viewpoint on childhood depression is unequivocally stated by Mahler (1961, p.342), "we know that systematized affective disorders are unknown in childhood. It has been conclusively established that the immature personality structure of the infant or older child is not capable of producing a state of depression such as that seen in the adult." The existence of a juvenile form of adult melancholia would further fuel the internal disputes of psychoanalysts regarding the organization and function of the ego, superego, and nature of object relationships and therefore should be avoided (Boulanger, 1966). The strong influence of psychoanalytic thought in child psychiatry and child clinical psychology through the 1960's provides another explanation why articles on this topic were not solicited or warmly accepted by journal editors.

Toolan (1978, p.243) who writes from a psychoanalytic perspective, notes the dramatic change that has taken place, since 1962 when he wrote his first article on childhood depression. At this time, "most

clinicians refused to accept this concept, insisting that depression had to be manifested in children by the same symptoms as those in adults. This was clearly the case, ergo, youngsters could not be considered to be depressed, Moods yes; unhappiness, yes; sadness, yes; but depression, no!" He contrasts this viewpoint with the tacit assumption made by the program chairman of the Association for the Advancement of Psychotherapy that depression does exist in childhood when he invited Toolan to discuss therapeutic approaches in working with depressed children at their annual meeting in 1977.

The term childhood depression itself contains semantic ambiguity in each of its parts which has helped complicate research and discussion in this field. The term "childhood" has often been used broadly in the psychiatric literature and included adolescents as well as children younger than thirteen. Anthony and Scott (1960) argue that even the limitation to children twelve and under would include a number of pubertal cases. They propose that the criteria be amended to include the absence of secondary sexual characteristics.

The term "depression" provides additional confusion with three main uses: 1) sad or despondent mood, that is a normal mood change, 2) a state, trait, or symptom that is a secondary complication or a significant component of another physical or emotional disorder, and 3) a pathological clinical entity, clinical syndrome, or illness (Gittelman-Klein, 1977; Kovacs & Beck, 1977; Pearce, 1978; Schuyler, 1974). The latter definition of depression as a clinical syndrome continues to be a source of debate even when its use is restricted to adults. Several different nosologies have appeared and controversy

often centers around whether adult depression is a single disorder with different signs or symptom clusters that may constitute subclassifications or are there several different distinct disorders (Malmquist, 1977). The issue of etiology is reflected in the endogenous-exogenous schema (Costello, Christensen, and Rogers, 1977), while severity of the disorder is dichotomized into a neurotic versus psychotic distinction. Kendall (1968) discusses the problem of the latter dichotomy and concludes that at the present we are dependent on clinical data which do not support the widely held view that neurotic depression and psychotic depression form two discrete entities. The psychotic depressions, usually termed manic-depressive disorders, also contain several subclassifications with a unipolar (clinical picture predominantly depressed or predominantly manic) contrasted with a bipolar manic-depressive psychosis that includes features of both depression and mania. This distinction relies on the history of the patient's disorder with knowledge of the presence or absence of a previous episode of a like or dissimilar nature to the current clinical picture essential to making the diagnosis. The subcategory of involuntional depression has been included in the Diagnostic and Statistical Manual-II because of its descriptive utility and it introduces the concept of development in the classification of depression. This provides an important precedent for viewing different patterns of symptoms as reflecting a developmental process and including childhood depression is a logical extension of this system.

The following literature review will attempt to contrast articles using similar definitions of "depression" and note when the definition of "childhood" has been stretched too far. This effort to separate

apples and oranges is important and previous failures to do so partly explains why, "The field of childhood depression is in the singular position of having an unspecified, undocumented disorder for which numerous equivalents are postulated" (Gittelman-Klein, 1977, p.71).



## DEPRESSIVE AFFECT

The feeling state of depression often called "the blues" is considered a normal human reaction and is seen as a natural companion to rainy days, a cold, a lost baseball, and the end of Summer (Schuyler, 1974). While everyone has a personal referent for depressive affect, the delineation of a behavioral or a theoretical definition that has a widespread consensus is a difficult process.

Dorpat (1978, p.3) defines "depressive affect (as) a conscious, preconscious, or unconscious affect in which the subject feels helpless about attaining certain aims." The relationship between depressive affect and other affects is complex with the depressive affect rarely occurring in isolation. It is frequently fused with sadness, guilt, shame, or grief and occasionally with anger. A layering of affects is commonly seen with depression used to defend against feelings of guilt which in turn hide feelings of anger or anger is used to cover a grief reaction with its accompanying depressive features. A third type of relationship is the conditioned stimulus or "trigger" in which experiencing one type of affect will touch off another type. Examples of this are guilt, shame, or embarrassment eliciting a depressive response. Anxiety and depression are described as the primary affects of unpleasure. While anxiety is associated with the uncertainty that an event may occur, depression is associated with something bad that has

happened or that the individual feels fairly certain will happen. Here the concept of control clearly differentiates anxiety where the person expects he may become helpless and depressive affect where the person feels he is helpless (Dorpat, 1978).

The depressive affect may arise as a reaction to mental pain or conflict such as in the case of guilt where the child did not live up to his parental expectations (ego--super-ego conflict). It can also occur as the individual experiences the helplessness associated with irrevocable stressful events (Abramson, Seligman & Teasdale, 1978). Most psychoanalytic writers have viewed real or fantasized object loss as the essential precipitant for depressive affect. A more general viewpoint is that there is a loss of a previous state of well-being. The loss of love-object takes on its significance then by the disruption of the state of well being that is implicit in the relationship with the object (Sandler & Joffe, 1965).

The depressive affect is described as the mildest form of depression and in children is often called moodiness (Harms, 1952). The use of the term here implies an unpleasurable mood, but it is important to note that children's moods are in general more unstable than adults' and pleasureable affects may alternate quite frequently with sad ones (Bakwin, 1972). A child's affective manifestations are also more intense than adult's (insufficient super-ego controls) and they have a more limited range of affective responses (Malmquist, 1977).

A more broadly defined depressive reaction will be discussed next. It can be viewed as a basic psychobiological affective response that can be a normal and appropriate reaction. However, it becomes abnormal when

it occurs in inappropriate circumstances, persists for an undue length of time, or is out of proportion in intensity. The symptoms should represent a change from the child's normal functioning and be sufficiently disruptive that they constitute a handicap (Dorpat, 1978; Pearce, 1978; Sadler & Joffe, 1965).

## DESCRIPTION OF DEPRESSIVE SYMPTOMS

In developing criteria for diagnosing childhood depression, the most objective and clearly defined systems have been developed by starting with the criteria for diagnosing depression in adults. Ling, Oftedal, and Weinberg, (1970) looked at the clinical characteristics of adult depressives and then arbitrarily selected ten factors that they felt would be more readily observable in children. Subsequent studies by Weinberg and his associates (Brumback et. al., 1977; Weinberg et. al., 1973) further organized these ten factors into a schema that more closely resembled the one developed by Spitzer, Endicott, Woodruff and Andreasen (1977) to diagnose adult depressives (Table 1). Both the adult and child criteria require the presence of a dysphoric mood, while the additional cardinal characteristic of self-deprecatory ideation is added for diagnosing childhood depression. The requirements of each symptom being a change in the child's usual behavior and present for at least a month are included for diagnosing the syndrome of childhood depression. The schema of Spitzer et al. (1977) is being developed as part of the classification of mood disorders for the new Diagnostic and Statistical Manual-III being prepared by the American Psychiatric Association. This new schema differentiates major from minor depressive disorders by the absence of full depressive syndrome and any signs of psychosis. Operationally, this means that criteria A is retained (Table

TABLE 1

COMPARISON OF CRITERIA FOR DIAGNOSING DEPRESSION IN  
CHILDREN AND ADULTS<sup>a</sup>

<u>Childhood Depression</u>	<u>Adult Depression</u>
<p>A. Presence of both symptoms I and II and two or more of the remaining eight symptoms (III-X)</p> <p style="margin-left: 2em;">I. Dysphoric mood (melancholy)</p> <p style="margin-left: 2em;">II. Self-deprecatory ideation</p> <p style="margin-left: 2em;">III. Aggressive behavior (agitation)</p> <p style="margin-left: 2em;">IV. Sleep disturbance</p> <p style="margin-left: 2em;">V. Change in school performance</p> <p style="margin-left: 2em;">VI. Diminished socialization</p> <p style="margin-left: 2em;">VII. Change in attitude towards school</p> <p style="margin-left: 2em;">VIII. Somatic complaints</p> <p style="margin-left: 2em;">IX. Loss of usual energy</p> <p style="margin-left: 2em;">X. Unusual change in appetite and/or weight</p>	<p>A. Presence of symptom I and at least four of the next eight symptoms (2-9)</p> <p style="margin-left: 2em;">1. Dysphoric mood characterized by symptoms such as the following: depressed, sad, blue, hopeless, low, down in the dumps, "don't care anymore," irritable, worried. (I,II)<sup>b</sup></p> <p style="margin-left: 2em;">2. Sleep difficulty or sleeping too much (IV)</p> <p style="margin-left: 2em;">3. Poor appetite or weight loss or increased appetite or weight gain (change of 1 lb. a week over several weeks or 10 lbs. a year when not dieting) (X)</p> <p style="margin-left: 2em;">4. Loss of energy, fatigue, or tiredness (IX)</p> <p style="margin-left: 2em;">5. Psychomotor agitation (III) or retardation (IX)</p> <p style="margin-left: 2em;">6. Loss of interest or pleasure in usual activities (VI,VII) or decrease in sexual drive</p> <p style="margin-left: 2em;">7. Feeling of self-reproach or excessive or inappropriate guilt (II)</p> <p style="margin-left: 2em;">8. Complaints or evidence of diminished ability to think or concentrate such as slow thinking, or indecisiveness (V)</p> <p style="margin-left: 2em;">9. Recurrent thoughts of death or suicide, including thoughts of wishing to be dead (II)</p> <p style="margin-left: 2em;">10. (Crying)<sup>c</sup> (I)</p> <p style="margin-left: 2em;">11. (Pessimistic attitude) (I)</p>

Childhood DepressionAdult Depression

- B. Each symptom must be a discrete change in usual behavior and must be present for more than one month
12. (Brooding about past or current unpleasant events)  
(I)
13. (Pre-occupation with feelings of inadequacy)  
(II)
- B. Duration at least two weeks
- C. None of the following which suggest schizophrenia is present
1. Delusions of control or thought broadcasting, insertion or withdrawal
  2. Hallucinations of any type throughout the day for several days or intermittently throughout a one week period unless all of the content is clearly related to depression or elation
  3. Auditory hallucination in which either a voice keeps up a running commentary on the patient's behaviors or thoughts as they occur, or two or more voices converse with each other
  4. At some time during the period of illness had delusions or hallucinations for more than one month in the absence of prominent affective symptoms
  5. Pre-occupation with a delusion or hallucinations to the relative exclusion of other symptoms or concerns (other than delusions of poverty, guilt, sin nihilism, or self-deprecation, or hallucinations with similar content)
  6. Definite instances of formal thought disorder

Childhood DepressionAdult Depression

- D. Exclude grief reactions following loss of a loved one if all the features are commonly seen in members of the subject's subcultural group in similar circumstances

<sup>a</sup>Adapted from Brumback, Dietz-Schmidt, & Weinberg (1977), Spitzer, Endicott, Woodruff, & Andreasen (1977), & Weinberg, Rutman, Sullivan & Dietz (1973).

<sup>b</sup>Roman numerals correspond to the symptoms under Childhood Depression.

<sup>c</sup>Criteria enclosed in parenthesis are listed under "minor depressive episode", but not under "major depressive disorder" by Spitzer et al. (1977).

1), the number of symptoms listed under B is reduced from four to two, four milder symptoms are added (Table 1, B.9--B.12) and persons with any form of delusion, hallucination, or formal thought disorder are excluded. Therefore the requirements for childhood depression developed by Brumback et al. (1977) takes a middle ground by requiring four symptoms instead of the three for a minor depressive disorder or the five for a major depressive disorder.

Ling et al. (1970) reviewed the records of approximately 800 patients evaluated at the St. Louis Children's Hospital Private Neurology Service over a two-year period. They selected cases presenting a complaint of headache and excluded those with organic diseases or serious sequelae from a previous neurological disorder. They found 26 patients fitting this criteria and one was unusable because of insufficient information on the natural parents. If the records lacked information, the families were reinterviewed. The sample was composed of 25 children between the ages of 4 and 16, with 21 of them under the age of 13. All the subjects were white and there were 52% boys and 48% girls.

The ten criteria utilized in the study appear in Table 2. The researchers emphasized recent changes in behavior and used the parent's evaluation to determine if there was a significant mood change (data regarding the quality of the present mood was not presented). The group was classified according to the type of headache and it was found that of the 16 subjects with migraine headaches, four were depressed, and six of the nine subjects with nonmigrainous headaches had evidence of depression. The authors concluded that childhood depression is



TABLE 2

COMPARISON OF TWO SETS OF CRITERIA FOR  
DIAGNOSING DEPRESSION IN CHILDHOOD

<u>Ling et al. (1979)</u>	<u>Connell (1972)</u>
1. Significant mood change	1. Irritability
	2. Weeps frequently
2. Self-deprecation and beliefs of persecution	3. Negative self-concept
	4. Feels rejected
	5. Morbid ideas
	6. Suicide threats/attempts
3. Aggressive behavior not previously present	7. Behavioral change (anergic/restless)
4. Lack of energy	8. Antisocial behavior (negativism/ destructive acts/fire setting)
	9. Compensatory symptoms (bulimia/ stealing)
5. Social withdrawal	10. Social withdrawal
6. Sleep disturbance	11. Sleep disturbance
7. Somatic complaints other than headache	12. Hypochondriasis
	13. Headache
	14. Abdominal pain
	15. Enuresis/encopresis
8. Increasingly poor performance in school	
9. School phobia	16. Anxiety
10. Weight loss and anorexia	17. Nausea and appetite loss

frequently associated with headache, however migraine headache could not be considered a usual symptom of depression.

Weinberg and his associates (Brumback et al., 1977; Weinberg et al., 1973) studied 72 of 89 consecutive new patients referred to an educational diagnostic clinic with school performance and/or behavior problems. Seventeen of the subjects were excluded from the project because they were 13 years or older or were pubescent. The subjects were white middle class children with ages ranging from 6 years, 6 months to 12 years, 8 months and 69% of the patients were male and 31% were female. The criteria in Table 1 were utilized in making a diagnosis of depression based on the data gathered by a pediatric neurologist in a semistructured interview with both parent and child. In addition to the initial interview, a follow-up evaluation was conducted three to seven months later. The principle changes from Ling et al.'s study to Weinberg et al.'s study were that one of the criteria for diagnosing depression became more specific by substituting "dysphoric mood" for "significant mood change" and one criteria became more general by replacing "school phobia" with "change in attitude towards school". The cardinal requirements of "dysphoric mood" and "self-deprecatory ideation" being present were also added.

The initial evaluation found that 42 (29% females and 71% males) of the 72 children met the criteria for a diagnosis of depression. The depressed and nondepressed groups showed no significant differences in age, sex, grade placement, or intelligence quotient as measured by the Wechsler Intelligence Scale for Children or the Peabody Picture Vocabulary Test.

The depressed group was subclassified on the basis of severity. The presence of suicidal thoughts was the criteria for the severe category (12%), and if the symptoms were incapacitating or a major concern to the parent or child, then the depression was rated as moderate (38%). If the the symptoms were felt to be secondary to other kinds of learning and/or behavior problems by the child or parents, then the depression was judged to be mild (50%). At the time of the initial evaluation, 35 children were actively depressed and seven were in remission. The authors labeled a depression as chronic if the symptoms had been present for more than a year and 19 of the 35 active cases fulfilled this criteria with 10 of the 19 presenting evidence of a recent exacerbation of their symptoms. The remaining 16 active depressive cases were divided into six who were presenting their first episode of a depressive disorder and 10 who had a history of a previous discrete depressive episode.

Two patients were included in the depressed group who had only one of the two essential symptoms (I. Dysphoric Mood and II. Self-deprecatory Ideation), however they both had seven of the other eight symptoms (Table 1, III-X). The depressed group had a mean of 6.9 symptoms while the nondepressed group had a mean of 1.4 symptoms. It is interesting to note that if the criteria of the presence of five symptoms is used like the major depressive disorder criteria developed for adults by Spitzer et al. (1977), then 38 of the patients are labeled depressed with no false positives. Four children diagnosed as depressed and three as nondepressed had evidence of four symptoms which combined with the five nondepressed children with three symptoms could form a group of

12 out of 72 or 17% that would more closely fit the criteria for a minor depressive disorder. In addition, three of the children who did not meet the criteria of depression in the initial evaluation were found to be depressed in the follow-up study (all had positive family histories of affective disorders). This raises the total of depressed subjects to 45 or 62.5% of the population studied.

The most frequently reported symptoms were crying, moodiness, and agitated behavior often seen in combination with sleep disturbance and/or somatic complaints. In addition to the behaviors used in making the diagnosis (Table 1), problematic but less frequently associated behaviors were school phobia, hyperactivity, poor social judgement, gullibility, temper tantrums, enuresis, destructiveness, stealing, and encopresis (listed in descending order of frequency of occurrence in the depressed group). The nondepressed group also gave evidence of many of these behaviors and they tended to be chronic rather than fluctuating problems. The depressed group had 20 of the 31 cases of hyperactivity with half of them only showing high activity levels when depressed in contrast to the 11 nondepressed hyperactive children who displayed this behavior chronically. Two-thirds of the depressed children who had enuresis and temper tantrums only displayed this behavior when they were depressed. While 23 children out of the entire sample had school phobia, 21 of them were depressed with 17 exhibiting the school phobia only during depressive episodes. In contrast, the two depressed children with encopresis were found to exhibit this behavior chronically.

The frequency of the criterion symptoms in the 42 depressed children was compared with two studies of adult depressives and revealed "a striking similarity in the frequency of the symptoms" except for changes in appetite or weight which was found less frequently in children than in adults (Brumback et al., 1977 p.532). A chi square analysis showed that all of the ten major symptoms occurred significantly more often in the depressed than the nondepressed group ( $p < .01$  for VIII Somatic Complaints and X Unusual Change in Appetite and/or Weight with the other eight symptoms being significant at the  $p < .001$  level).

The depressed child often makes statements such as "I'm dumb; ugly, stupid;" "You don't love me;" and "I wish I were dead;" (Brumback & Weinberg, 1977b, p.912). These feelings of low self-worth further diminishes the child's ability to socialize. As a consequence of the self-deprecation, the child may develop feelings of persecution that range from the belief that teachers, family, and friends are picking on him to a delusional system with conspirators plotting against the child.

The agitated depressed child is hard to live with because he is quarrelsome, belligerent, disrespectful of authority, and often involved in fights. This type of behavior gets the child in trouble at home and in school and too frequently these depressed agitated children receive labels of "delinquent" and get placed in juvenile detention centers. In contrast, the withdrawn depressed child will refuse to see friends, may watch television alone for hours, and loses interest in his/her usual activities.

Kovacs and Beck (1977) performed a "selected review" of the literature on childhood depression and concluded that all the symptoms

the other researchers had characterized as being features of childhood depression could be subsumed under the four categories that Beck (1967) developed to describe the adult depressive syndrome: 1) affective changes, 2) cognitive changes, 3) motivational changes, and 4) vegetative and psychomotor disturbances. The Beck Depression Inventory (BDI) was designed to assess the presence and severity of these four components of depression and its high reliability and validity on adult populations has been demonstrated (Beck, 1967).

A short form of the BDI has been developed which consists of 13 items that correlate highly with the long form ( $r=.90$ ). Each item consists of four choices that are rated in severity from 0-3. The BDI was administered to 598 adult patients who were independently evaluated by a clinician for depth of depression. The short and long forms of the BDI had similar correlations,  $r=0.61$  and  $0.59$  respectively, when compared to the clinician's ratings (Beck & Beck, 1972).

The short form of the BDI was administered to 63 children (57% boys and 43% girls) in the 7th and 8th grades of a suburban parochial school in the Philadelphia area. There is no reference in the article as to the number of subjects who were pubescent, but given the age range and grade placement, the majority of the subjects had probably entered puberty. The BDI was administered in a group setting and the teachers' evaluations of the youngsters academic performance was obtained (Albert & Beck, 1975).

The mean score on the BDI was 7.06 with a range of 0 to 24. The girls tended to score higher than the boys and the 8th graders scored higher than the 7th graders. Adults receiving scores of 8-15 are

classified as moderately depressed, while those scoring 16 or above are classified as severely depressed. A comparison of the scores of the adolescents in this study to the classification system used with adults found that 37% fell into the moderate to severe categories. A review of the percentage of subjects who endorsed individual items as present (scores greater than 0) shows that the self-dislike (60%), work difficulty (57%), dissatisfaction (56%), indecisiveness (51%), and sense of failure (48%) items were endorsed most frequently. It is of interest that 35% of the subjects endorsed the self harm item where the mildest scoreable response was "I feel I would be better off dead". The high percentage with which the whole group endorsed some items led the authors to speculate that some developmental issues were being tapped rather than these items reflecting the presence of a true depression. When item analysis was done with just the 23 subjects who had total scores that fell into the moderate-severe range, it was found that they presented patterns similar to that observed in adults. The cardinal symptoms of dysphoric mood and self-deprecatory ideation proposed by Weinberg et al. (1973) were not as frequent in this sample with only 60.9% presenting a dysphoric mood as compared to 97.6% in Weinberg's sample. This could be partially due to the fact that Weinberg et al. (1973) drew their subjects from a clinical population while Albert and Beck (1975) sampled a "normal" population. In contrast, the items of "fatigability" and "anorexia" were found to be less frequently endorsed by subjects in Weinberg et al.'s study than in Albert and Beck's with Cassidy (1957) observing an even higher percentage of these symptoms present in adult depressives. These findings reflect a developmental trend given that

the three studies sampled children, young adolescents, and adults respectively.

Frommer (1968) used case material to do a retrospective study on most of the children she diagnosed as having depressive illness during a five year period. In contrast to the previous studies, Frommer gives no information as to what criteria she utilized in making her diagnoses of depression. Although lacking clear a priori criteria for diagnosing childhood depression, Frommer attempted to distinguish the features of it by contrasting 190 children who she diagnosed as depressed with a group of 74 children who were experiencing a less specific neurotic disorder. This latter group had some members with depressive features and children with consistently delinquent behaviors were excluded from this comparison group. The children in the depressive group were 3-16 years old with 79%, 12 years or younger. The symptoms of irritability, weepiness, complaint of depression, tension, and explosiveness, moodiness, difficulty getting off to sleep, and abdominal pain were observed significantly more often in the depressed than in the general neurotic group. The majority of the children in the depressed group had been referred by the pediatric department because of persistent somatic complaints without any detectable organic causes, while those patients in the neurotic group were mostly referred by local schools. The difference in referral source helps explain why Frommer's depressed children more frequently reported abdominal pain compared to the depressed children in Weinberg's study (53.7% vs. 35.7%).

The two groups also showed some differences in the frequency of the symptoms of irritability, initial insomnia, moodiness, and weepiness



with Weinberg's study finding these characteristics in 11%--36% more subjects (Table 3). These discrepancies could be due to the differences in the referral source (school versus pediatric), data collection technique (interview versus archival) or definition of the terms. Brumback et al.'s (1977) study found enuresis more prevalent in the depressed group compared to the nondepressed contrast group (38.1% vs. 28%, respectively). Both studies found encopresis as relatively rare in the depressed groups ( 5%) and it was seen as often in the nondepressed contrast groups (Frommer--12%, Brumback et al.--3.3%).

Ossofsky (1974) reviewed the records of 220 children between the ages of 1 and 12 seen in a private practice setting. All the children were treated with imipramine for a "variety of disorders in which depression dominated the clinical picture" (Ossofsky, 1974, p.19). The subjects were 71% male and 29% female with 9% of the children having been adopted. The author found reliable information on the delivery and pregnancy of 172 of the children and found that 132 (79%) had abnormal deliveries which were documented by birth or physician records. Seventy-seven of these children were born following a precipitous delivery. The author does not give an operational definition for "precipitous delivery" in terms of the number of hours of labor or offer a comparison to the frequency of this problem in the general population.

The distribution of cases according to age was not given, so it is difficult to tell what proportion in fact represented preschoolers and elementary school age children. There was no criteria given for determining the presence of depression and while "the traditional play-

TABLE 3

COMPARISON OF SEVERAL REPORTS OF THE FREQUENCIES  
OF DEPRESSIVE SYMPTOMS

<u>Study</u> <sup>a</sup>	<u>Brumback</u>	<u>Frommer</u>	<u>Connell</u>	<u>Ossofsky</u>	<u>Pearce</u>	<u>Albert</u>
N	42	190	20	220	126	63
Age Range	6-12	4-16	4-14	1-12	3-17	11-15
Major Symptoms <sup>b</sup>						
I. Dysphoric Mood	97.6%	--	--	--	--	--
A. Complaints of						
1. sad, lonely, unhappy	88.1	--	--	--	--	--
2. hopeless	--	--	--	--	--	42%
3. depressed	--	21.6%	--	--	--	--
B. Mood swings	80.9	45.3	--	--	--	--
C. Irritable	78.6	66.8	95%	100%	36%	--
D. Anxiety	--	44.8	75	--	--	--
E. Weepiness	76.2	55.3	75	--	--	--
II. Self-deprecatory ideation						
A. Feeling of being						
1. worthless	95.2	--	85	--	--	--
2. ugly	--	--	--	--	--	64
3. guilty	--	--	--	--	--	56
4. rejected	--	--	100	--	--	--
B. Beliefs of persecution	80.9	--	--	--	--	--
C. Morbid ideation	35.7	--	75	--	54	35
D. Suicidal thoughts	11.9	--	45	--	31	--
E. Obsessions/rumin- ations	--	--	--	--	15	--
III. Aggressive behavior	88.1	--	--	--	--	--
A. Difficult to get along with	59.5	--	--	--	--	--
B. Temper Tantrums	38.1	--	--	55	--	--
C. Disrespectful of authority	54.8	--	75	--	--	--
D. Quarrelsome	59.5	--	--	--	--	--
E. Stealing	9.5	21	30	--	--	--
F. Belligerent, hostile, agitated	52.4	17.9	5	--	--	--
G. Hyperactivity restless	47.6	--	20	57	--	--
H. Excessive fight- ing/sudden anger	50.0	54.7	--	--	--	--

<u>Study</u>	<u>Brumback</u>	<u>Frommer</u>	<u>Connell</u>	<u>Ossofsky</u>	<u>Pearce</u>	<u>Albert</u>
IV. Sleep Disturbance	81.0%	--	65%	77%	46%	--
A. Initial insomnia	59.5	48.4	--	54	--	--
B. Restless sleep	26.2	--	--	69	--	--
C. Terminal insomnia	16.7	20.5	25	--	--	--
D. Difficulty waking in morning	4.8	--	--	--	--	--
V. School performance	71.4	--	--	--	--	--
A. Frequent complaints from teachers of poor concentration, indecisive	47.6	--	--	100	--	--
B. Poor work effort	45.2	64	--	--	--	--
C. Lost interest in nonacademic activities	38.1	--	--	--	--	--
VI. Diminished socialization	66.7	--	100	--	--	42%
VII. Change in attitude towards school	61.9	--	--	--	--	--
A. Doesn't enjoy	47.6	--	--	--	--	--
B. Refuses to attend	46.5	--	--	--	28	--
VIII. Somatic complaints	54.8	--	--	--	--	--
A. Headaches	42.9	28.4	45	--	--	--
B. Abdominal pain	35.7	53.7	50	--	--	--
C. Muscle aches	11.9	--	--	--	--	--
D. Enuresis	38.1	28.9	20	45	--	--
E. Encopresis	4.8	4.7	0	9	--	--
IX. Loss of usual energy	1.1	--	--	--	--	55
X. Unusual change in appetite/weight	38.1	--	--	--	--	68
A. Anorexia/polyphagia	38.1	24.2	55	--	30	--
B. Unusual weight change	14.3	--	30	--	--	--

<sup>a</sup> Adapted from Brumback, Dietz-Schmidt, & Weinberg (1977), Frommer (1967), Connell (1972), Ossofsky (1974), Pearce (1977,1978) & Albert & Beck (1975).

<sup>b</sup> The categories of major symptoms are taken from Weinberg, Rutman, Sullivan, Penick & Dietz (1973).

room technique (was) used as an extended diagnostic evaluation," (Ossofsky, 1974, p.19) there was no information given regarding the training, sex, or number of clinicians who performed the evaluations.

All the children from 1 to 7 were referred because of hyperactivity or hyperactivity associated with behavior problems. The 1-5 year olds were referred by parents or pediatricians while the 6-7 year olds were more frequently referred by teachers. The 8-12 year old children were referred most frequently for school problems including underachievement, perceptual difficulties, dyslexia, and school phobias. Almost half of the children over 5 years of age had previously been evaluated and received the diagnosis of minimal brain dysfunction (M.B.D.). The presence of hyperactivity (57%), short attention span (36%), delayed speech (21%), dyslexia and abnormal Bender-Gestalt test protocols (the latter two were present in 24% and 42% respectively of the 153 children who received psychological evaluations) and the birth histories suggests that the "variety of disorders" probably contained many cases with significant neurological involvement. A number of the children in this study were probably experiencing a depressive disorder that was secondary to their developmental disorders. The children in this study presented sleep disturbance nearly as often as the children in Brumback et al.'s (1977) study (77% vs. 81%, respectively), however they reported substantially more middle insomnia (Ossofsky--69% vs. Brumback et al.--26%). The latter finding may be due to differences in terminology with Brumback et al. looking for "restless sleep" and Ossofsky for "awakenings". Ossofsky (1974) reports that a few children

reported visual hallucinations at bed time and some complained about seeing colored dots and squares during the day. The author notes that it is difficult to distinguish hallucinations from fantasy with children and observed that both imagination and normal fantasy were greatly reduced in the depressed child.

Pearce (1977, 1978) examined the records of 784 children between the age of 3 and 17 who attended a Child Psychiatric Department over a two year period. An item sheet was completed on each child and contained demographic data and an evaluation of symptoms present during the past year. A rating of "absent", "doubtful", or "present" was completed on 42 symptoms with the "item marked 'morbid depression, sadness, unhappiness, tearfulness' selected for further study" (Pearce, 1978, p.494). Pearce points out that the item sheet's reliability was not evaluated and it was completed by approximately 40 psychiatrists. The point(s) in treatment when the evaluation was carried out and the data upon which the evaluations were based are not described in the article. Subgroups of depressed and nondepressed children were formed by assigning those children with ratings of "present" and "absent" on the depression item to their respective groups. Children who were rated as "doubtful" on the depression item were excluded from the study along with children who were diagnosed as having schizophrenic or organic psychoses or intelligence quotients below 50. The criteria for the clinical diagnoses and the method of assessing intellectual ability were not provided by the author.

The depressed (126 children) and nondepressed (421 children) groups were compared and it was found that the depressed children were

significantly older than the nondepressed children (mean ages 12.6 and 10.3 years, respectively). This age difference placed a significantly larger number of depressed children in the postpubertal group (58%) in comparison to the nondepressed group (32%). The criteria for determining whether a child was pubescent was not given. The sex ratio of the two groups also showed a significant difference with the depressed group having a higher percentage of females (55% male, 45% female) than the nondepressed group (67% male, 33% female). The duration of the psychiatric symptoms was greater than one year for more than 50% of both groups.

The depressed group was referred significantly more often by an outside psychiatrist (depressed--36%, nondepressed--12%,  $p < .001$ ) and the nondepressed group was most frequently referred by general practitioners (depressed--33% vs. nondepressed--40%, not significant). The children in the depressed group were more likely to be inpatients (depressed--26% vs. nondepressed--7%,  $p < .001$ ) or seen by the Emergency Service (depressed--14% vs. nondepressed--7%, not significant). The two groups did not differ on familial history of mental disorders and the data on incidence of depressive disorders in the parents of the depressed children was unavailable. The children in the depressed group had a higher incidence of disturbed social relationships than the nondepressed group with significantly more disturbed intrafamilial relationships.

Pearce (1978) found a number of symptoms occurring significantly more often in the depressed than in the nondepressed group. He found morbid anxiety in 54% of the depressed group and in 15% of the nondepressed group. This finding places the depressed group in between the

36% Brumback et al. (1977) report as having "death wishes", and the 75% Connell (1972) found with morbid ideas. Pearce (1978) reports that 22% of the nondepressed group and 36% of the depressed group were irritable. The incidence in their depressed group is considerably lower than that reported by Ossofsky (1974)--100%, Brumback et al. (1977)--78.6%, or Frommer (1968)--66.8%. The depressed group in Pearce's (1978) study also had a lower incidence of sleep disturbance and pain than found in the other three studies (see Table 3). These differences could be due to a difference in the criteria for being placed in the "depressive" group used in the four studies. Frommer (1974) included children with a "depressive illness", Ossofsky (1974) included children with a "variety of disorders in which depression dominated," Brumback et al. (1977) utilized a set of criteria designed to identify primary depression, while Pearce (1978) employed a single item on a checklist that contained several dysphoric adjectives. It appears that the depressed group Pearce studied probably contained a number of children with a depressive affect, but who were not experiencing a more pervasive depressive syndrome.

Connell (1972) reviewed eight pediatric psychiatric texts and Frommer's (1968) article to elicit a pattern of symptoms that would be indicative of depression in childhood. She divided the symptoms into three categories which included symptoms associated with change in affect, pathophysiological symptoms, and other symptoms. The research was conducted in a children's hospital in Australia and the subjects were 10 boys and 10 girls between the ages of 7 and 14 who were referred by the pediatric staff for the study and were considered to be suffering primarily from a disturbance of mood even if another condition was present.

An additional criteria was that the parents described the child as persistently unhappy or depressed. Fifty per cent of the girls and 80 per cent of the boys were 11 years old or younger.

The parents were interviewed by a psychiatrist while a psychologist administered the Wechsler Intelligence Scale for Children (WISC), the Junior Eysenck Personality Inventory (JPI), and an assessment of the child's self-concept. The psychiatrist subsequently saw the child for one or more interviews. The symptom score based on the 17 areas delineated by Connell (see Table 2) was given each child based on the information obtained from the parent and child interviews. The symptom duration had to be at least three months to be marked as present. A contrast group of 12 children within the same age range was randomly drawn from the general hospital population.

The clinical history revealed ample evidence that these children were showing evidence of lowered mood with parents reporting, " ' He's a lonely little fellow, very sad and withdrawn'; 'She's lost interest in life, I reckon she's depressed'; and 'She feels she isn't part of the family anymore.' " (Connell, 1972, pp.74-75). The depressed group had an average symptom score of 10.6, while the contrast group had an average score of 2.6. The specific symptoms identified showed irritability present in 95% of the depressed children which is consistent with the findings of Ossofsky (1974)--100%, Brumback et al. (1977)--78.6% and Frommer (1968)--66.8% and higher than that reported by Pearce (1978)--36%. The feelings of rejection were reported in all 20 of the depressed children studied by Connell (1972) and a more general negative self-concept was seen in 85% of this group. The two symptoms together show



an incidence close to the 97.6% observed to have self-deprecatory ideation by Brumback et al. (1977). The symptom of social withdrawal was also reported in all 20 depressed children which is substantially higher than the percentage of 59.5% of depressed children found with the same symptom by Brumback et al. (1977). Behavior changes were observed in 90% of the depressed group with 14 described as anergic or apathetic. This is higher than the 28.6% with this problem observed by Brumback et al. (1977) among the depressed children in their study. It is hard to compare these two studies on the variable of "loss of usual energy" since Connell's (1972) study places a cognitive variable (apathetic) together with a behavioral one (anergic). The remaining four children with behavioral problems in Connell's study (1972) were described as restless with one child given the additional label of "agitated".

Seventy-five per cent of the depressed group were reported to "weep frequently" which is close to the 76.2% reported by Brumback et al. (1977) as having "crying spells" and higher than the 55.3% Frommer (1968) described as having "weepiness". A very high percentage (45%) of Connell's (1972) depressed group reported having made suicide attempts which is significantly higher than the 4.8% observed by Brumback et al. (1977) in their study. This finding provides the strongest indication that the psychiatric population studied by Connell (1972) was more severely disturbed than the psychoeducational population studied by Brumback et al. (1977) and helps explain the generally higher percentage of most of the pathomononic symptoms observed in Connell's (1972) depressed group compared to Brumback et al.'s (1977) depressed group (see Table 3).

Connell (1977) found that pathophysiological symptoms were also present in the depressed group and reports sleep disturbances in 65% of those subjects. The general pattern was restlessness and nightmares, however five children (25%) had early morning awakenings between 3 and 5 a.m. This latter finding is only slightly higher than the 16.7% observed by Brumback et al. (1977) or the 20.5% observed by Frommer (1968) among the depressed children they studied. Anorexia was seen in 55% of the depressed children studied by Connell (1977) with two saying food was poison. In comparison, Brumback et al. (1977) reported 38.1% as having anorexia or polyphagia. Ten or 50% of Connell's depressed group reported abdominal pain with one being relieved of a normal appendix in comparison with the reported incidence of this problem observed in 53.7%, 35.7%, and 23% of the depressed children studied by Frommer (1968), Brumback et al. (1977), and Pearce (1978), respectively.

Forty-five percent of Connell's (1972) depressed group reported headaches which is similar to the finding of 42.9% by Brumback et al. (1977) and higher than the 28.4% reported by Frommer (1968). Connell (1977) observed nocturnal enuresis in 20% of the depressed group and none of the children were encopretic which is fewer than the percentage of children observed with these problems by Brumback et al. (1977), Frommer (1968), and Ossofsky (1974) (See Table 3). However Frommer (1968) observed these symptoms as often in her contrast group as in her depressed subjects and Pearce (1968) found them significantly ( $p < .025$ ) more often in his contrast group than his depressed subjects.

Connell (1972) had parents of 75% of her depressed subjects describe their children as "surly and defiant" which is higher than the

54.8% found by Brumback et al. (1977) who were reported as being "disrespectful of authority". Connell (1972) lists stealing and overeating under "compensatory behavior" and found 30% of her subjects had these problems. She also reports anxiety in 75% of the depressed subjects in comparison to Frommer (1968) who observed it in only 44.8% of her depressed subjects.

Connell (1972) reports that the psychological evaluation showed all the children to be within the normal range of intelligence, poor school performance was frequent, and 85% expressed a strong negative self concept. Twelve of the 18 depressed children with scorable JPI test protocols were found to be highly introverted and neurotic compared to children of the same age and sex. An interesting comparison of the 12 children with neuroticism scores above 50 and the six with scores below 50 showed that the former group had symptoms of a shorter duration which the parent related to specific events in the children's lives in contrast to the latter group who were described by their parents as being persistently unhappy with all of them being symptomatic for over four years.

Murray (1970) did a preliminary uncontrolled study of 36 children (58% boys and 42% girls) between 6 and 15 years of age that were seen in a Child Psychiatry Department in a London, England Hospital. A more detailed continuation of the project included the assessment of another 24 children (25% boys and 75% girls) from the same hospital and a Family Guidance Clinic in Cork, Ireland. He reviewed the literature on childhood depression and identified eight groups of symptoms relevant to this population. He felt that the symptom groups of overt depression, sleep disturbance, social withdrawal, and fears about death were suggestive of

a diagnosis of depression while the symptoms of school nonattendance, aggression, somatic complaints, and generalized anxiety were not. These groups include general categories or specific symptoms covered in seven of the ten criterion symptoms described by Brumback et al. (1977) including seven of the eight they observed most frequently. Sixty per cent of the subjects studied were observed to have four or more of the groups of symptoms listed above. Murray (1970) did not provide any further quantitative data regarding the incidence of these symptoms among his subjects, instead he reported six case descriptions such as the one that follows:

(1) Anthony (11 years) of average I.Q., came from a broken home. His father had deserted the family two years previously. There were two other children and the mother worked as an office cleaner. Two months prior to referral, he presented a depressed appearance, became difficult to manage at home and was aggressive. He had unsettled sleep with late onset and early morning wakening. He began truanting from school and was picked up by the police while wandering from home. He said he did not want to go home because if he stayed away his mother would have one less to feed. He considered that he should be dead. He responded to Amitriptyline 50 mgms. t.d.s. and nocte (p.55).

MacAusland (1975) evaluated 25 depressed children and 17 non-depressed children for the presence of five developmentally sensitive neurological signs. The depressed group included children 7 to 13 years of age who were diagnosed as depressed at a Child Psychiatry Department in London, England and their I.Q.'s were "estimated and found" to be within the normal range by a psychologist. The criteria used for making the diagnoses as well as the training of the person(s) performing the diagnostic evaluations were not described. The contrast group contained 17 children between the ages of 6 and 11 who attended a primary school in London. Their teachers, parents, and family physicians were not

concerned about their behavior, health, or scholastic achievement.

The two groups were further subdivided into the children with or without possible minimal brain dysfunction (M.B.D.) based on whether or not they had a history of prenatal or perinatal trauma which would make them at risk for M.B.D. This classification placed 56% of the depressed children and 64.7% of the nondepressed children in the possible M.B.D. groups. A re-evaluation using the same techniques was performed on 17 of the 25 depressed children and 14 of the 17 nondepressed children approximately one year after the initial evaluation. When the mean number of physical signs at the initial and re-evaluation were compared, it was observed that both the depressed groups and the control possible M.B.D. group showed significant improvement ( $p < .05$ ). The control no history M.B.D. group showed slight improvement and it may have been less radical than the other groups because they had less than half the physical signs of the other control group, and only a third of the signs observed in the two depressed groups at the initial evaluation. The author notes that the subjects not re-examined tended to be slightly younger and to have more symptoms than those re-examined, thus a slight selection bias is present.

The depressed groups were approximately one year older than the control groups at the initial evaluation, so the author performed inter-group analyses using the data from the first examination of the depressed groups and the second examination of the control groups. These four groups were not significantly different on age distribution. The variables of depressed vs. nondepressed and possible M.B.D. and no history of M.B.D. were compared in a 2X2 analysis. The results showed no

significant main effect for "M.B.D." and no significant interactional effect between "history" and "depression". The difference between the depressed and normal children was significant ( $p < .001$ ) which led the author to suggest, "that depression in children can produce somatic signs of developmental significance" (MacAusland, 1975, p. 231).

## NOSOLOGICAL CONSIDERATIONS

The previous section reviewed research efforts that have attempted to describe the symptoms that characterize a syndrome or disorder of childhood depression. Cantwell and Carlson (1979) make the distinction between depression as a syndrome which has a dysphoric mood and other symptoms that regularly occur with it and a depressive disorder. The latter has the cluster of symptoms constituting a depressive syndrome plus additional characteristics describing its natural history, response to treatment, and possible biological correlates. While there has been some research directed towards delineating these additional characteristics (Cytryn et al., 1974; Kane, Coble, Conners, & Kupfer, 1977; McKnew & Cytryn, 1973) this research is still in its infancy and its advancement is hampered by the lack of clear and widely accepted operational criteria for determining the presence of a depressive syndrome in childhood. Therefore, childhood depression will be discussed in this paper principally from the point of view of a syndrome because a more comprehensive title such as "disorder" appears premature given our current level of knowledge.

The place for this syndrome of childhood depression in the broader nosologies of child and human psychopathology has generated considerable controversy (Katz, 1977; Rie, 1966; Stack, 1971). Cytryn, McKnew, and Bunney (1980) and Cantwell and Carlson (1979) describe three main

schools of thought that have emerged on this issue:

1. Childhood depression is a unique clinical entity that requires specific diagnostic criteria which are different from those used in adults.
2. Childhood depression can be subsumed under adult affective disorders and meets the same criteria with slight modification reflecting developmental levels.
3. Childhood depression cannot be considered a valid clinical entity until more specific criteria are agreed upon (Cytryn et al., 1980, p.22).

The proponents for the first position have frequently developed schemas of subclassification based on key symptoms and/or developmental changes.

McConville, Boag, and Purohit (1973) studied children between 6 and 13 seen on an inpatient unit in Canada and identified 51% as having a "prime target symptom" of childhood depression. This category is not identical to clinical diagnosis with only 5 of the 75 patients studied having a primary diagnosis of depressive reaction. The research group contained 77% boys and 23% girls which is close to the sex ratio on the inpatient unit as a whole. This study described three types of childhood depression with the first type characterized by a dysphoric mood. The expression of sadness, helplessness, loneliness, and alienation from peers and family were seen in this group. This group had the youngest children (6-8 years of age) and the authors hypothesized that the issues of nurturance and separation made these symptoms more important. The second group was older (8-10 years of age) and self-deprecatory ideation was the most frequent symptom with feelings of worthlessness and of being unloved often reported. The third group contained children who felt they were wicked or bad and thought that they should be dead. This type of symptom was seen least often and usually in older children (10-13



years of age) which reflects their cognitive development and enhanced ability to employ a punitive super-ego. Children who had recently experienced a bereavement were more likely to express this type of guilt than children who had experienced multiple placements or other chronic losses. Two of the children in the guilt depression group also reported auditory self-punitive hallucinations.

Ushakov and Girich (1971) studied 100 children and adolescents with psychogenic depressions. They looked separately at the 84 patients that were experiencing a first episode of depression and the 16 patients who were experiencing a recurrent episode. They observed developmental differences in the expression of symptoms occurring during the peak of the depressive state. The children in the 5-6 age range (14 cases) were characterized by sadness and melancholy. Frequent crying and decreased daytime activity levels and a decrease in interest in normal activities were noted. In the evening, these children's motoric activity would increase and could be described as fidgety and restless with their affect changing from sadness to anxiety. Tics and nocturnal enuresis were also characteristics of this group. These children would get angry at people around them, but rarely with themselves and showed no evidence of suicidal or delusional ideation.

The 7-10 age group (24 cases) displayed more sadness and melancholy than the younger group. An awareness of their problems and their causes was seen more often in this group and suicidal ideation was sometimes present. These suicidal thoughts were not connected to ideas of self-reproach, but instead reflected a wish "to spite them" or was an example of imitative behavior. These children also expressed feelings of

"dissatisfaction with their own person". The 11-13 age group (26 cases) showed low spirits and melancholy with suicidal ideation seen as frequently as in the preceding group. A few of these children made comments of a depressive delusional type.

The differences in age groupings makes it difficult to compare McConville, Boag, and Purohit's (1973) study with the one conducted by Ushakov and Girich (1971) in regard to developmental changes in the manifestation of depressive symptoms. However, some important trends do emerge with both studies observing depressive affect as the major symptom in the youngest groups (ages 5-8) and self-deprecatory ideation becoming a more prominent feature in the next oldest group (ages 7-10). The occasional occurrence of delusions characteristic of a depressive disorder were found only in the oldest (ages 10-13) age group. Murray (1970) also reports that while the younger children may not complain of unhappiness or appear conscious of it, they may look sad and unhappy. In addition, he found children exhibiting feelings of worthlessness and self-reproach starting at 9-10 years of age.

Stack (1971) emphasized that "depression is rarely a single entity, we cannot just talk of childhood depression, it is more accurate to talk of childhood depressions" (p. 461). He grouped the childhood depression subcategories into two major groups: those occurring in preschool children and those occurring in school going children (see Table 4). Stack developed his classification system based on a study of 490 children treated with antidepressant medication in an outpatient Child Psychiatry Department of a children's hospital in Dublin, Ireland out of 4,500

TABLE 4

## COMPARISON OF TWO CLASSIFICATION SYSTEMS OF CHILDHOOD DEPRESSIONS

	<u>Malmquist (1971a)</u>		<u>Stack (1971)</u>
I.	Associated with Organic Diseases	2D	Depressions Associated with Organic Brain Syndromes and Psychotic School Going Children
	A. Part of Pathologic Process		
	1. Leukemia		
	2. Degenerative Diseases		
	3. Infectious Disease		
	4. Metabolic Diseases-Juvenile Diabetes, Thyroid Diseases, etc.		
	5. Nutritional or Vitamin Deficiency States		
	B. Secondary (Reactive) to a Physical Process		
II.	Deprivation Syndromes-Reality-Based Reactions to Impoverished or Non-rewarding Environment	1B	Apathy in Pre-School Children
	A. Anaclitic Depressions		
	B. "Affectionless" Character Types		
III.	Syndromes Associated with Difficulties in Individuation		
	A. Problems of Separation-Individuation		
	B. School Phobias with Depressive Components	2B	Phobic School Going Children with Depressive Reactions
	C. Developmental Precursors of "Moral Masochism"		
IV.	Latency Types		
	A. Associated with Object Loss	2A	Simple Depression in School Going Children
	B. Failure to Meet Unattainable Ideals		
	C. "Depressive Equivalent" (Depression without Depressive Affect)	2C	Mixed Depression States in School Going Children
	1. Somatization (Hypochondrical Patterns)	1C	Somatization in Pre-School
	2. Hyperkinesis	1A	Hyperactivity in Pre-School
	3. Acting Out		
	4. Delayed Depressive Reactions		
	D. Manic-Depressive States		
	E. "Affectless" Character Types (Generalized Anhedonia)		
	F. Obsessional Character (Compensated Depressive)	2C	Obsessional Pre-School Children with Depressive State
V.	Adolescent Types (Seven Categories Listed under this Heading)		

children referred to the clinic during the years 1965-1970. The method of data collection was not described in the report.

The first group of school age depressions was labelled simple depression and 75 children (61% boys and 39% girls) were placed in this group. These children had good premorbid histories and the majority came from intact families. Sixty per cent of this group had a family history of depression and 20% had suffered the loss of a significant person during their lifetime. This group exhibited dysphoric mood, somatic complaints, reduced interest in activities, and sleep disturbances.

The second group contained phobic or obsessional children with depressive states and 64 children (27% boys and 73% girls) were classified as belonging in this category. The premorbid history in this group contained many neurotic traits including anxiety, perfectionistic, and inhibited. The percentage of children with family histories of depression was only 25% in this group. The presenting symptoms most frequently seen were abdominal pain, vomiting, and school phobia. There was a mixed depression group containing 150 patients (77% boys and 23% girls). This group had a good premorbid history and their parents had a high incidence of character disorders, neuroses, and functional psychoses. The symptoms of dysphoric mood and social isolation were frequently reported in this group. They also had a high percentage of learning disorders and somatic problems (encephalitis, encopresis, asthma, and neurodermatitis). The last group included children with depression associated with organic brain syndromes and psychoses. This pattern was found in 85 patients (53% boys and 47% girls) and it was felt that the depression was an overlay of the other condition. The criteria for inclusion in one of these subgroups

was not given, nor was the criteria given for determining that the child was depressed and should receive chemotherapy.

Malmquist (1971a,b, 1972, 1977a,b) has written extensively on the topic of childhood depression. He proposes a classification system of childhood depressions with the greatest number of categories. This system combined several criteria including descriptive features, age, and etiology to devise the categories. A comparison of Stack's criteria and Malmquist's is shown in Table 4 and it can be seen that all of Stack's categories can be subsumed by Malmquist's more extensive classification system. The one area where the two systems differ is the age where the depressive equivalents of hyperactivity and somatization is placed with Malmquist listing these problems as latency age and Stack placing them in the preschool group.

The study that gives the most detailed description of the symptoms and associated features found with each childhood depressive subtype utilized was the one conducted by Frommer (1968). She took the depressed children in her study and first separated out those with a clearly phobic type of illness (33%). Then she divided the remaining children into those with past or present enuresis and/or encopresis (28%) and those without those symptoms (39%). The enuresis and/or encopresis group had 57% boys and 43% girls with the most frequent complaint their enuresis or encopresis. This group exhibited the symptoms of moodiness and weepiness slightly more often than the other two groups and were seen as immature far more often than the uncomplicated depressive and phobic depressive groups (62%, 26% and 24%, respectively). Aggressive behavior was also seen more often in this group as well as parental rejection. The onset

of the depression was more often associated with a precipitating shock than the other groups, and there was a fairly high rate of parental mental illness (52%). This group also tended to be younger than the other two groups with half of the children referred between the ages of 9 and 12 and the range between 3 and 14 years of age.

The uncomplicated depressive group (53% boys and 47% girls) showed some symptoms of dysphoric mood, but their most distinguishing factor was spontaneous complaints of depression (31% vs. 19% for the neurotic and 13% for the phobic groups). This group also contained the majority of cases with suicidal ideation and attempts. This group had the best school adjustment and the highest incidence of parental mental illness (58%). This group also tended to be older at referral than the enuretic/encopretic group which supports the developmental trends observed by McConville, Boag, and Purhoit (1973) and Ushakov and Girich (1971) with dysphoric mood predominating in the younger groups and the older group exhibiting more depressive themes in their verbal behavior.

The phobic depressive group had a reversal in the sex distribution with 35% boys and 65% girls. This group presented the highest incidence of somatic complaints and also a group of symptoms associated with separation anxiety, including lack of confidence, clings to mother, withdrawn personality, and anxiety. The symptom of anxiety was observed in 71% of this group which was more than twice as frequent as it was seen in the other two groups. This group was the oldest at age of referral, but tended to have a longer period of time usually two to three years that separated symptom onset and treatment referral. This group had the lowest incidence of parental mental illness (29%). Unfortunately,

Frommer did not do statistical tests on the differences she observed between the three groups, so that while the magnitude of the differences provides some descriptive information, there is no way to ascertain if these are chance variations.

Arajari and Huttunen (1972) report a study of 44 children between 5 and 12 years of age (82% boys and 18% girls) seen on an inpatient psychiatric unit in Helsinki who displayed the symptoms of enuresis (55%), encopresis (25%), or both (20%). They used data from the psychological evaluations, psychiatric status investigation, and behavioral observations on the unit to determine the presence of depressive symptoms in these children. The encopretic children were observed to experience a more severe and a higher incidence of depression than the enuretic children. The encopretic depressives also exhibited some similar characteristics on their Rorschach protocols including: 1) lack of originality, 2) lowered productivity, 3) stereotypical reactions, 4) decreased responsiveness to other people, 5) repression of drive impulses, and 6) constricted personalities. Similar to the finding reported by Frommer (1968), this study also found the depressive encopretics to have rejecting parents and a number of parents with a history of mental illness (three mothers were depressive).

Bellman (1971) did a follow-up study of 209 families with encopretic children in Stockholm. She looked at this symptom primarily from a psychodynamic viewpoint, and concluded that ego defects were more common in encopretics than in enuretics with denial employed by both

groups, but more frequently by the encopretics. The encopretic children also had a history of separations and the child often felt abandoned. The encopresis was viewed as acting-out of impulses rather than a neurotic defense. The reports of parental rejection in the other studies suggest that psychological abandonment as well as physical abandonment may contribute to the development of depression with encopresis.

Achenbach and Edelbrock (1978) reviewed the empirical efforts that have been made to try and determine a classification system of child psychopathology. They found case histories, clinical observations, teacher's reports, and parent's reports used as sources of data in the studies, and focused primarily on research efforts that had used factor or cluster analyses to determine syndromes or symptom groupings. They found two broad band factors present in many of the studies which separated children into undercontrolled and overcontrolled groups. A list of 14 narrow band syndromes was also reported which the authors found present in more than one study. The Aggressive, Delinquent, Hyperactive, and Schizoid narrow band syndromes were each reported in 10-14 studies which the authors felt provided "persuasive" evidence for their generalizability. The Anxious, Depressed, Social Withdrawal, and Somatic Complaint syndromes were each found in six studies and the authors considered this as "good" evidence for substantiating their existence.

An instrument utilizing parent's reports of their child's behavior was developed by Achenbach (1978) and was standardized on groups of 6-11 year old boys, 6-11 year old girls, 12-16 year old boys, and 12-16 year old girls. Each of these groups were factor analyzed



separately and broad bands of Internalizing and Externalizing were found. The narrow bands were determined by a principal components analysis and a depressive syndrome was found in both the boys and girls 6-11 year old groups (Achenbach, 1978; Achenbach & Edelbrock, 1979). The depression scales contained nearly identical items, but the loadings of items on the two scales showed some differences. A subsequent study by Edelbrock and Achenbach (Note 3) of two sets of 200 profiles using scores obtained on the nine narrow band factors was conducted. The 6-11 year old boys were found to have six reliable profile types: 1) Schizoid, Depressed and Uncommunicative scales, 2) Somatic Complaints scale, 3) the Schizoid and Obsessive-Compulsive scales, 4) Depressed, Social Withdrawal and Aggressive scales, 5) the Delinquent scale, and 6) the Hyperactive scale. The labels reflect the high points in the profile with the entire pattern used to determine the profile types. The Depressed, Social Withdrawal, and Aggressive profile appears to most closely resemble the syndrome of childhood depression described by Weinberg, Rutman, Sullivan, and Dietz (1973). Edelbrock and Achenbach (Note 3) examined the profiles of 798 6-11 year old boys seen in outpatient mental health facilities and this profile was the one most frequently encountered (19.2%). A sample of 342 who were girls 6-11 years old was also evaluated, and of the six profile types for this group, the Depressed-Social Withdrawal profile was observed in 17% of the sample.

Wirt, Lachar, Klinedinst, and Seat (1977) developed a Personality Inventory of Children (PIC) designed after the Minnesota Multiphasic Personality Inventory (MMPI) that is used with adults. They developed a

Depression scale based on items selected by a group of clinical psychologists that were judged to represent childhood depression. Like the Child Behavior Checklist (CBCL) developed by Achenbach, the PIC relies on a parent reporting the presence of the child's symptoms. Lachar and Gdowski (1979) studied 200 children (70% male and 30% female) referred to the Lafayette Clinic using the PIC and ratings made by psychiatric residents on a 100 item adjective checklist. The factors derived from factor analysis of the checklist items were used to check the concurrent validity of the PIC scales. The factor Anxiety/Depression was found to relate to the Depression scale for the female children, but not the male children. The Depression scale also loaded on the Hostility/Dyscontrol, Sleep Disturbance, Perfectionistic, and Social Withdrawal factors for girls. The boys showed positive correlations between the Depression scale and the Sleep Disturbance, Emotional Lability, Suicide Intent, Social Withdrawal and Fearfulness factors. The study also looked at male and female adolescent responses and the authors concluded that their findings were suggestive of sex specific and age specific differences in the patterns of child psychopathology syndromes.

The developmental trends that appear to be emerging from these studies suggest that Rutter (1965) was accurate in proposing that "maturation sometimes causes abnormality to manifest itself in different ways at different ages" (p. 73). While these studies did not provide evidence that childhood depression is a uniquely different entity from adult depression, they do suggest that it may "look" different in childhood and that it may even have a changing appearance during that period of time.

The factor analytic studies have provided some groundwork for a more empirical approach to classifying childhood psychopathology. It appears that childhood depression has emerged as a reliable subgrouping and should be included in any classification of childhood emotional disorders.

The second view of a childhood depression syndrome proposed by Cytryn, McKnew, and Bunney (1980) was that it is similar to the adult affective disorder, but has some special features characteristic of developmental levels. Cytryn and his co-workers have adopted this viewpoint and have attempted to show how the classification system they developed for childhood depression (Cytryn & McKnew, 1972) is compatible with the new Diagnostic and Statistical Manual of Mental Disorders, Third Edition's (DSM-III) classification of affective disorders (American Psychiatric Association, 1980).

Cytryn and McKnew (1972) employ three categories in classifying childhood depression which include acute, chronic, and masked depressions. They developed this system based on their observations of children referred from outpatient and residential programs to an inpatient unit of a pediatric hospital. The acute and chronic groups are both seen as having the depressive syndrome of a persistent sad affect, social withdrawal, anxiety, sleep and feeding disturbances, decreased school performance, suicidal ideas and threats but only rarely attempts. The acute and chronic groups are differentiated by the associated features of premorbid history, family background, and etiology. The acute group has a good premorbid history with occasional reports of some maladjustment as

manifested by stubbornness, negativism and other indicators of a passive-aggressive personality structure. The children with chronic reactions had psychological defenses that were not as well developed and their pre-morbid histories usually revealed only marginal social and emotional adjustments. As a result, in the acute group it took a serious precipitating event usually involving some form of object loss (i.e. death or divorce) to bring on the depression, while the chronic depressives often had the depression activated by a minor trauma. The chronic group frequently had a history of repeated separations and object losses during their lives and often starting as early as infancy. The acute group had parents with a history of mild to moderate neurotic problems without any gross psychopathology, while the chronic group had at least one parent, usually the mother, with a history of recurrent depressive illness.

Cytryn and McKnew felt that these disorders were neurotic rather than psychotic depressions and noted that they failed to see hallucinations or delusions in any of the depressed children they treated, and the social withdrawal they observed was qualitatively different from the autistic aloofness of psychotic children. This last observation is in contrast to the findings of McConville, Boag, and Purohit (1973) and Ushakov and Girich (1971) who found evidence of delusions in some of their subjects. The discrepancy in these reports could be due to the difficulty in differentiating delusional thinking from the use of fantasy in children. The simple depressive group described by Stack (1971) is similar to Cytryn and McKnew's acute group in that they both have good premorbid histories, however the high incidence of parental depressive illness

observed by Stack for their simple depressive group is a feature associated with Cytryn and McKnew's chronic group.

The third category in Cytryn and McKnew's (1972) typology is masked depression which they acknowledge "has proven to be a difficult and controversial clinical entity" (Cytryn et al., 1980, p. 23). The children in this group exhibit a variety of disorders including hyperactivity, psychophysiological disorders, and aggressive behavior with the depression inferred from occasional overt depressive symptoms and depressive themes elicited in response to projective materials. The families were often chaotic, with some family members presenting severe psychopathology. Cytryn, McKnew, and Bunney (1980) in their "re-assessment" of the childhood depression nosology decided that while aggressive and somatic symptoms are often observed in depressed children, that the diagnosis should be based on the most predominate symptoms. Therefore, if acting-out behavior or severe anxiety dominates the clinical picture with depressive symptoms also observed, then they should be the primary diagnoses with the depression listed as secondary or a feature of the other disorder. The authors then examined their remaining two categories of acute and chronic depression in comparison to the new DSM-III criteria for Affective Disorders and concluded that they could be subsumed under Major Depressive Disorder. The acute depressive reaction would be differentiated from the chronic depressive reaction primarily by the use of the 4th digit in the DSM-III code, with the former classified under 296.2 - Major Depressive Disorder, Single Episode, and the latter under 296.3 - Major Depressive Episode, Recurrent Episode. The

multi-axial aspects of DSM-III would also be utilized with the acute depressive reaction using Axis IV to code that the psychosocial stressors were at least "severe" (code-5) on a 7 point scale with 0 being "none" and 7 being "catastrophic". The charts of 23 children who had been diagnosed acute or chronic depressive reactions under the Cytryn-McKnew criteria were re-examined to assign DSM-III diagnoses. Twenty of these cases were diagnosed as a major depressive disorder, with two more diagnosed as atypical depressive disorders, and one with a separation anxiety disorder. These findings led the authors to encourage a "universal acceptance of DSM-III as a basis for diagnosing affective disorders in children" (Cytryn, McKnew, & Bunney, 1980, p.25).

Since Cytryn, McKnew and Bunney's (1980) article was received for publication in March, 1979, it is not clear whether or not they were using the final draft of the DSM-III as it appeared when it came off the presses in early 1980. This question is of import because the DSM-III underwent many revisions prior to publication and Cytryn and his associates did not refer to the DSM-III category of 300.40 - dysthymic disorder (or depressive neurosis). The principle difference between the major depressive disorder and the dysthymic disorder is severity, with the former category requiring the presence of 5 out of 9 symptoms, and the latter requiring 4 out of 14. It is worth noting that of the two only the dysthymic disorder lists the symptoms of social withdrawal, irritability or excessive anger, and tearfulness or crying which are ones that were frequently reported in the previous section as descriptive of childhood depression. While both first and recurrent episodes are

allowed in DSM-III for the major depressive disorder, the dysthymic disorder is restricted to use with patients experiencing a chronic condition that has been present persistently or intermittently for at least one year (two years in adults). The additional qualification of the absence of psychotic features also would make this category consistent with McKnew and Cytryn's (1973) description of their childhood depressive reactions.

Mental health professionals are resistant to using adult diagnostic categories with children (Achenbach & Edelbrock, 1978), and the stigma associated with applying a diagnostic label with the adjective "major" in it to a child will probably contribute to child mental health workers avoiding the category of major depressive disorder. The DSM-III by not having a separate category for childhood depression and by including some age-specific features for children in the Affective Disorders category, appears to fall in this second group that considers childhood depression as very similar to adult depression.

Puig-Antich, Blau, Marx, Greenhill, & Chambers (Note 4) applied the Research Diagnostic Criteria (RDC) of Affective Disorders developed for use with adults by Feighner, Robins, Guze, Woodruff, Winokur, and Munoz (1972) to a pilot study of 13 children (38% girls and 62% boys) 6-12 years of age. Since the children in their study closely fit the RDC criteria developed for adults, they felt their findings supported the hypothesis that "prepubertal" and adult major depressive disorders are basically the same illness occurring at different points of development" (p. 18).

Kovacs and Beck (1977) after their review of the literature on childhood depression felt that all of the symptoms described could be subsumed under Beck's four categories for adult depression: 1) affective changes, 2) cognitive changes, 3) motivational changes, and 4) vegetative and psychomotor disturbances. This finding further suggests the similarity between childhood and adult manifestations of affective disorders.

The third viewpoint regarding the childhood depression syndrome is that there is insufficient data to consider this a valid clinical entity at this time. Rie in 1966, and Lefkowitz and Burton in 1978, reviewed the literature on childhood depression and both of them reached conclusions supporting this viewpoint. Rie's (1966) review focused mainly on the psychodynamic aspects of depression. He concluded that many of the important structural antecedents (i.e. development of a super-ego) were not available until the end of latency and therefore the development of a depression was theoretically impossible. He looked at the concept of self-esteem and concluded that while low self-esteem was seen in adult depression that children had not yet obtained a stable ego identity, so it was unlikely that they could experience low self-esteem. He also felt that children lacked sufficient development of a future time perspective to experience hopelessness and its companion despair, which are important components of adult depression.

Lefkowitz (1978) critiqued the concept of childhood depression from an epidemiological viewpoint. He looked at the symptoms associated with a syndrome of childhood depression that had been studied in large samples of normal school children and concluded that these symptoms prevail at too high a rate in the normal population to be considered



statistically deviant and thus pathonomonic.

The three viewpoints regarding the syndrome of childhood depression have each attracted their supporters. The first viewpoint, that it is a unique concept, looks promising as the developmental aspects of depression in childhood become more carefully delineated. The actuarial approach towards defining childhood psychopathology that is starting to grow through the use of the CBCL and the PIC would also support this viewpoint the DSM-III which will start being adopted by clinics and hospitals in 1980 may provide the strongest support for the viewpoint that child and adult depressions are similar. If children are given DSM-III Affective Disorder diagnoses, it will simplify attempts at comparing the two populations. The last viewpoint that the concept of childhood depression is not yet a viable concept is becoming less tenable as empirical studies in the area are coming out at an increasing rate. However, this viewpoint provides a healthy dimension to the field in that it encourages researchers to be more rigorous and theoreticians to be more precise.

## FOLLOW-UP STUDIES

The relationship between adult and childhood depression might become more clearly understood if children experiencing depression were followed into their adult life. Unfortunately, this type of longitudinal research is hampered by numerous problems associated with the length of time separating diagnosis in childhood and adult outcome. Two reports have appeared describing follow-up studies of a more intermediate time span of three to eleven years (Herjanic, Moghaddas, & Prince, 1978; Pozanski, Krahenbuhl, & Zrull, 1976).

Hernanic, Moghaddas, and Prince (1978) did a follow-up study of children seen in a general pediatric hospital who had a final diagnosis of depression, possible depression, or suicide attempt between 1967 and 1973. They found a group of 69 potential subjects of which 20 (50% boys and 50% girls) were located and agreed to participate in the study. The interviews were semistructured and psychiatrists made the follow-up diagnoses using Weinberg, Rutman, Sullivan and Dietz's (1973) criteria for depression with children under 15, and Feighner et al.'s criteria for depression with subjects over age 15. The follow-up period ranged from three to eight years with a mean of five and a quarter years. The age at follow-up ranged from 11 to 21 with a mean of 17 years. While the authors describe this as a study of childhood depression, it is important to note that over half of the subjects were over 12 years of

age at the time of the initial diagnosis. The preadolescent group showed far less pathology on follow-up than the adolescent group. The authors used the research criteria to review the charts from the original admission and make independent diagnoses. They classified only three of the children in the study as depressed or possible depression with suicide attempts, and all three of these subjects were 12 or over. All three were also found to have psychiatric problems at follow-up and received diagnoses of affective disorder, undiagnosed disorder, and possible hysteria. This is in contrast to the rest of the group where 11 of the 20 were seen as having no disorder on follow-up. The retrospective diagnoses failed to confirm the original diagnoses of affective disorder using the more explicit criteria. This problem could be due to the incompleteness of the records, but it raises the question of what was the meaning of the original diagnoses: a depressive affect or a more pervasive disorder?

Pozanski et al. (1976) attempted a follow-up of Pozanski and Zrull's (1970) study of childhood depression. They were only able to locate 6 of the 14 children from that report for re-evaluation, so they added 4 more patients they had previously seen to increase the sample size to 10 (80% boys and 20% girls). They did interviews with these subjects, an average of 6.6 years (range 4-11 years) after the initial evaluation. They found half of the subjects displaying overt signs of depression during the follow-up psychiatric interview. It appears that the authors were looking more for the presence of a depressive affect on follow-up than using a clearly defined method of detecting a more pervasive depressive syndrome. The selection of cases from the initial evaluation (Pozanski and

Zrull, 1970) included the presence of a behavioral sign of depression (i.e. sleep difficulty or concern about death) in addition to the depressive affect. Excerpts from the case material yielded a description of symptoms that would fulfill most of Weinberg et al.'s (1973) criteria for a syndrome of childhood depression.

The follow-up study (Pozanski et al., 1976) found disturbances in most of the parent-child relationships for the entire group with those children who looked depressed on follow-up having more parental psychopathology. All 10 of the subjects had poor peer relationships with heterosexual relationships worse than those with the same sex. While the interpersonal relationships of these children were classified as "distant" and "withdrawn" as children, they showed difficulty as adolescents separating from their families. The frequent and overt aggression observed in these patients during childhood did not confirm the author's expectations of leading to adolescent delinquency, instead the entire group was relatively passive.

The productivity of these patients at school and on the job was examined with six of them showing little change from the low level of academic performance reported at the time of the initial evaluation. The productivity of three of the patients had deteriorated and one had improved. A comparison of the intelligence quotients with academic achievement showed that except for the one person who had improved, the rest were underachieving compared to their intellectual abilities. Two of the older members of the group had histories of underemployment. The authors concluded from this study that these patients resembled adult depressives on follow-up which supported their hypotheses that childhood

depression may persist and become manifested as adult depression.

While there were several methodological problems noted in these studies, they are important in that they were carried out despite the many handicaps inherent in longitudinal research. Given their intermediate time span, they tended to report changes from childhood to adolescence rather than spanning the entire developmental period to adulthood. These reports do suggest that adolescent depression is probably closer to adult forms than childhood forms (i.e. temper tantrums being replaced by a more passive response style) which calls into question the clinical and research reports that often lump these two age groups together. Herjanic et al. (1978) used well defined diagnostic criteria, but then discovered that only 15% of their sample met the depression criteria at the time of the initial evaluation. This type of diagnostic ambiguity makes it difficult to reach even tentative conclusions regarding the outcome of childhood depression based on the findings of these two studies.

## EPIDEMIOLOGY

The frequency with which depression has been observed in populations of children has been found to vary greatly. Annell (1971a) reviewed the studies in her edited work, Depressive States in Childhood and Adolescence, and found the reported frequencies ranging from 1.8% to 25%. She concluded that the discrepancies could be partly attributed to differences in population and more importantly to differences in the definition of depression.

The Isle of Wight epidemiological study reported by Rutter, Graham, Chadwick, and Yule (1976) of 2,199 children 10 and 11 years old yielded a low 0.1% rate of "pure" depression. Petti (1978) utilized the Bellvue Index of Depression and found 59% of 73 children seen in an inpatient unit to be depressed. Unfortunately, he did not furnish much demographic data on his subjects. Bruback et al. (1977) in their study of children referred to a psychoeducational clinic found 62.5% of the 72 children (ages 6-12) in the study met their criteria for childhood depression. Pearce (1978) found 23% of 547 children seen by a psychiatric clinic (ages 3-17) to have the symptom of depression, while Albert and Beck (1975) found 33% of the 63 (ages 11-15) school children they tested with the Beck Inventory to have "moderate" to "severe" depression.

Kashani and Simonds (1979) conducted a study designed to determine the prevalence of childhood depression in the nonpsychiatric population.

They obtained a sample of 103 children (50% boys and 50% girls) between the ages of 7 and 12 from a family practice clinic and children born at a University Hospital in Missouri. They interviewed the children and their mothers in their own homes. They used the DSM-III diagnostic criteria for major affective disorders and found that only two boys or 1.9% of their sample fit the criteria for this diagnosis. In contrast, they found that 17.4% of their subjects had a sad or depressed affect. They draw the same conclusion as Ansell that the wide range in the reported frequency of depression is due to differences in diagnostic criteria.

While the section on symptom description in this paper gave the frequency of many depressive symptoms in clinical populations, the rate at which some of these symptoms occur in normal populations will be reviewed here. LaPouse and Monk (1958) and Werry and Quay (1971) have conducted studies on the prevalence of behavior characteristics in children. Many of the behaviors they studied have also been associated with the syndrome of childhood depression. LaPouse and Monk (1958) sampled 482 mothers of 6-12 year old children in Buffalo, New York for reports of their children's behavior. They found that 43% reported 7 or more fears or worries in their child, 17% enuresis, 36% a change in food intake, 48% temper loss of at least twice a week, nightmares in 28%, overactivity in 49%, and restlessness in 39%. There were some developmental differences with the 6-8 age group having significantly more nightmares (36% vs. 20%) and temper tantrums (55% vs. 40%) than the 9-12 year olds. Werry and Quay (1971) had teachers rate the behavior of 926 boys and 827 girls attending public schools in Illinois. The

children were in kindergarten, first, and second grades, and 5 to 8 years of age. They reported on 55 behaviors, nearly half of which have been associated with childhood depression. They found restlessness in 49.7% of the boys and 27.8% of the girls, hyperactivity in 30.3% of the boys and 13.8% of the girls, hypersensitivity in 26.9% of the boys and 31.8% of the girls, and depression or chronic sadness in 7.2% of the boys and 7.6% of the girls. A comparison of these symptoms according to sex found that many of the acting out behaviors were observed significantly more often in boys, while some of the neurotic type symptoms were found slightly more often in girls. The prevalence of many of the symptoms decreased between the ages of 5 and 6 and then had a slight increase at age 8. This tendency was found in both sexes. Werry and Quay concluded from this study that the prevalence of many symptoms of psychopathology in the general 5-8 year old population is quite high and their individual diagnostic value is therefore very limited.

The pathonomic significance of a single symptom in a child appears to be dependent upon several factors. The age of the child is important given the changing base rate of these symptoms with age. There may be some symptoms that are general indicators of emotional problems without being of diagnostic importance (i.e. enuresis), and other behaviors with which the symptom covaries may make the symptom important as part of a group such as in the syndrome of childhood depression.



## MASKED DEPRESSION

Lesse (1974a,b, 1977) has edited a monograph and written articles on the topics of masked depression and depressive equivalents. He posits that depressive syndromes in adults are frequently masked by other conditions, particularly psychosomatic disorders. His view that depression in children often goes undetected because it is hidden by other symptoms not usually associated with depression has been supported by others (Faux & Rowley, 1967; Glaser, 1967; Toolan, 1962, 1974b). The presenting problems that are frequently described as masking depression in children are behavioral problems, psychophysiological reactions, psychoneurotic reactions, and decreased school performance (Glaser, 1967). Burks and Harrison (1962) while noting a theoretical reluctance to utilize the concept of the depressive equivalent found that this concept was well suited to understanding some aggressive children seen on their outpatient unit. They observed anhedonia or "the inability of these children to have any real fun" (Burks & Harrison, 1962 p. 419). Given the advantages of continual observation in the inpatient setting, the authors were able to start to clarify the relationship between aggressive acting out and the underlying feelings of worthlessness and depression. The child's first line of defense is to employ reality distorting techniques such as rationalization or denial, however if these were not available the child would then experience a dysphoric

affect. This would happen if the child's adequacy or fantasized omnipotence were threatened, he was threatened with receiving positive feelings from an adult and thus expose his craving for affection, or he remembered an experience from his past that reinforced his feelings of worthlessness. While the authors did not describe the number of patients they observed with aggression masking depression, they did provide some case vignettes to illustrate their constructs such as this example of a child's reaction to positive feelings:

Craig, a nine year old boy, had a long history of stealing, fighting, and poor peer relationships. He was born at a time of great marital strife. His mother consciously did not want the pregnancy and felt Craig was not her child. An outstanding symptom was his inability to get close to anyone, although all of the staff felt he seemed to want such a relationship. He showed some feeling of warmth toward the head nurse by hanging around her office frequently. One day he entered the dining room and took a seat next to her, grumbling, 'There's no place else to sit,' even though there were several other empty chairs. She noted the change and remarked, 'Well, Craig, I guess you've decided to like me today.' He immediately turned away, began to toss silverware at another child, and shortly had to be removed from the dining room (Burks & Harrison, 1962, p. 420).

Apley (1975) conducted a study of 100 little bellyachers. The children had to be over age 3, have had at least three attacks of abdominal pain, and pain being of sufficient severity to interfere with their activities, and recurring for a period of over three months to be included in the study. He found positive evidence of organic disorders in only 8 of the 100 patients and observed positive evidence for emotional disturbance in 56 of the patients in his sample. While, Apley did not specify the type of emotional disturbance these children were experiencing, it is apparent that the somatic complaint may be

symptomatic of a psychological rather than a physical problem. Frommer (1968) observed abdominal pain in over half of the 190 depressed children she studied. Green (1975) believes that linkages between the child's symptoms and stresses in his life can often be ascertained. A detailed history looking for separation experiences, family illnesses, or marital discord he suggests could help in understanding this relationship.

Agras (1959) reported that six of seven children aged 6-12 that he studied with school phobia showed depressive symptoms. The most common symptoms were outbursts of crying and unhappy whiny behavior. Three of the children displayed suicidal and morbid ideation while one made several suicidal gestures. These findings led the author to conclude that school phobia was one of the modes through which childhood depression presents itself. Waldron, Schrier, Stone, and Tobin (1975) compared 70 children (5-12 years of age) half of whom had school phobias, and the other half had other neurotic conditions. The researchers found that the school phobic group showed more depression than the control group (56% vs. 26%) and had a tendency to have unrealistically high self-expectations (32% vs. 9%). This study was done using archival techniques and the authors did not state how they defined depression. However despite the limited sample presented by Agras and lack of methodological clarity in Waldron et al.'s report, these studies support the hypothesis that childhood depression and school phobia are related. In contrast, Gittelman-Klein, Klein and Oaks (1971) studied 35 school phobic children (ages 6-11) whom they treated with imipramine and reached a different conclusion. They defined depression as the inability to experience pleasure and a sense of incompetence, and determined that using

this definition the children in their study did not meet the criteria for a diagnosis of depression. The psychiatrist who evaluated the children rated 12 of 34 as quite depressed and 5 were rated as feeling inadequate. The authors did not observe anhedonia or hopelessness in these subjects, and therefore concluded that they did not meet their criteria for depression. They also felt that the therapeutic action of imipramine, a tricyclic antidepressant medication, was not in its antidepressant action, but rather its ability to moderate the child's separation anxiety. While the relationship between childhood depression and school phobia has not been delineated by these three studies, it appears that Gittelman-Klein et al. (1971) "protest too much" in concluding that none exists. Their attempt to force children into the mold of adult depression could be leading to premature dismissal of the importance of dysphoric affects observed in their subjects.

Riddle and Rapoport (1976) did a two year follow-up study of 72 hyperactive boys (mean age 10.2 years). A contrast group of 57 boys not in treatment was used, and the authors found the hyperactive boys significantly more depressed than the control group with 12 children making statements of worthlessness or hopelessness during the structured interview. All 12 of these boys also gave Thematic Apperception Test (TAT) stories that manifested a moderate to severe amount of depression. There were five more boys who displayed similar depressive themes on the TAT, but did not make depressive statements during their interviews. The rating of depression did not correlate significantly with stressful factors in the home, academic achievement, or current symptom ratings at home or in school. Children who were

primarily psychoneurotic had been screened out of this study, so the authors felt these findings were significant, but did not predict that the depression would moderate the future acting out behavior in these hyperactive boys.

Welner, Welner, Stewart, Palkes, and Wish (1977) studied 43 hyperactive children and a control group of 38 nonhyperactive children as well as the siblings for both groups. They found that the hyperactive children made significantly more frequent self-reports of depressive affect than the control group (31% vs. 0%). They also observed significantly more of the hyperactive children displaying three or more depressive symptoms than the control group children (36% vs. 6%). The sisters of these groups did not display this difference. The authors considered the depression observed in the probands to be reactive to their hyperactivity and suggested that the stress of having a hyperactive sibling might also account for the depression among their brothers. The influence of genetic and/or environmental factors are other possible explanations for the presence of depressive symptoms in both the hyperactive children and their male siblings.

Lesse (1974) notes that the individual with a depressive core who masks this depression usually appears extremely angry. This anger could be an affective layer concealing the sadness beneath and help explain that while aggressive children are frequently observed, persistently sad children are only infrequently reported. Cytryn, McKnew, and Bunney (1980) included masked depression in their classification system of childhood depressions. They note that this term has often

proved controversial because like the unconscious it can only be assessed indirectly. They proposed that if aggressive or somatic symptoms predominate then the diagnosis should reflect those disturbance with depression listed as secondary. This handling of the issue seems parsimonious in that it directs attention to the problem that is most outstanding at the time of the evaluation while noting "depressive features" so that the dynamic implications of the depression can be considered in the treatment plan.

## PHYSICAL ILLNESS AND DEPRESSION

While physical pains and complaints have been found to accompany the child's psychogenic pain, there have also appeared reports of children developing emotional responses to physical illness. Blumberg (1978) discussed his observations based on work on a general pediatric service. He saw the separation from mother during hospitalization as predisposing the child towards depression with the physical illness and adjustment to a new environment placing additional stress on the child. He also described fatally ill 6 to 11 year olds as displaying initial protest, anger, and depression as they react to their impending death. He then described a fourth stage different from Kubler-Ross's depiction where the child used denial and convinces himself that he is getting well and becomes cheerful and cooperative. Blumberg (1978) used case studies to illustrate his points but did not provide any quantitative data to support his contention that depression occurs in children on a medical inpatient ward.

Geiger, Barte, and Hubay (1973) did psychological evaluations of 58 children and adolescents with juvenile diabetes who were 10-18 years of age (59% boys and 41% girls). They found the most frequent emotional problem (47% of the children) was psychogenic depression which they defined as permanent anxiety, lack of interest, passivity, poor self-evaluation, feelings of guilt, and suppression of aggression. The

authors did not discover object loss as a precipitant to the physical illness although the depression often preceded the onset of the diabetes.

Chakroborty, Banerji, and Sandal (1977) reviewed the charts of 880 children up to the age of 14 seen by a psychiatric clinic in Calcutta, India between 1968 and 1975 to find which cases had a history of fever. There were 80 cases that met this criteria or 4%-11% of each year's referrals. The authors found depression in 32 of these children using a symptom cluster of distressed appearance, crying, withdrawal, fear of death of parents, sleep disturbances, and saying they were depressed. All the children who had fevers of one to seven days duration were between 7 and 12 years of age in contrast to a second group that had fever over 10 days and were older including 5 cases (13%) who were evaluated as depressed. These fevers were generally of unknown etiology and not associated with any epidemics. The authors concluded that this depressive reaction following fevers of short duration is apparently similar to the depressive illness observed in adults following infection by an influenza virus.

These three reports, while preliminary in nature, suggest that the separation from significant adults with hospitalization, the threat of dying, loss of function associated with chronic illness, and loss of function and malaise accompanying infection can all engender some of the symptoms of depression if not a depressive episode in children.



## SUICIDE

The incidence of prepubertal children committing suicide successfully has been described as low with 103 child suicides under the age of 14 recorded in 1965 (McCarney, 1975). Shaffer (1974) studied all children aged 14 or under recorded as committing suicide in England and Wales during the period 1962 through 1968 and found that the 31 cases were all over the age of 12. Bender and Schilder (1937) reported on the suicidal ideation and/or attempts of 13 children seen at Bellevue Hospital in New York. The children ranged in age from 6 to 15 with 9 being 11 or younger. The researchers reviewed the cases and proposed that the children's suicidal behavior was an attempt to escape from an unbearable situation which usually consisted of a deprivation of love. Lawler, Wladyslaw, and Wright (1963) did a retrospective study of 22 children (32% boys and 68% girls) admitted to a hospital in Winnipeg, Canada following unsuccessful suicide attempts. There were only six patients in this group (67% males and 33% females) who were under 12 years of age with the youngest being 8. It is interesting to note that the sex ratio reverses in adolescence with 19% boys and 81% girls in the 12-15 year age group. The diagnosis of depression was given to 13 of the 22 patients in this study with three of them given the diagnosis of manic-depressive psychosis. It was observed that the loss of a love object (parent or teacher) was usually found present in the depressed patient.

McIntire and Angle (1970) in a study of the classification of suicide by poison control centers noted that in children 6 to 10 years of age, 50% of poisonings are called "unintentional". They consider this viewpoint naive given the report that this age group (N=111) selects sedatives twice as frequently as the 4 year olds, 24% of the children in this group had been referred to behavior clinics, 43% had a precipitating stress, and only 8.6% of the 992 cases of patients aged 11-18 were labeled as "unintentional". They concluded that self-poisoning in a child over 6 is rarely accidental. A subsequent study by McIntyre and Angle (1973) employed public health nurses in evaluating the severity of suicidal intent and related psychological and demographic variables in 50 subjects 6-17 years of age (38% male and 62% female) who ingested poisonous substances and had been treated by a hospital in Omaha and a group of 50 subjects matched for age and sex taken from public schools in the same area. The suicidal group was significantly more depressed than the control group as evaluated by the nurses using the presence of the symptoms of loneliness, hopelessness, exhaustion, disorders of sleep and appetite, and chronic illness to evaluate the depression. The estimated lethality of intent had the highest correlation with scores for depression ( $r=0.59$ ) and stress ( $r=0.57$ ).

Paulson, Stone, and Sposto (1978) used computerized summary sheets on the 662 children under 12 years of age seen by the Child Psychiatry Division from 1970 to 1974 at the University of California at Los Angeles to identify those children who were severely depressed and self-abusive and/or potentially suicidal. They identified 34 children (68% male and 32% female) for a more thorough chart review. Many of

these children came from chaotic families with 53% of their parents divorced or separated and only 32% living with both biological parents. There were also seven children in this group that had witnessed violence within their homes. The precipitating event was frequently a real or perceived abandonment by a parental figure. Thirteen children were located by a follow-up study averaging 4.4 years after the initial evaluation. The majority of the children were found to have made a positive response to therapeutic interventions and none had committed suicide. This study did not state the criteria used in evaluating children for depression or compare the suicidal depressed group to another control group.

Mattsson, Seese and Hawkins (1969) reviewed the records of 170 children seen on an emergency basis by a hospital in Cleveland during 1963 to 1965 and found that 75 patients (7 to 18 years of age) were referred because of suicidal behavior. In the under 12 age group, it was found that 100% boys and 0% girls (5 cases) were seen because of suicidal behavior, while 15 boys and 9 girls in this age group were seen for other problems. This sex ratio was reversed in adolescence with 21% boys and 79% girls (70 cases) seen for suicidal behavior. Four of the boys under age 12 who were seen had verbalized serious threats and an 11 year old boy had taken an overdose of vitamin pills because, "he was tired of living" (Mattsson et al., 1969, p. 104). The authors looked at external and internal stress factors and divided their patients into five groups. The loss of a love object followed by acute or prolonged grief was one group that was characterized by overt depression and the stated

wish to die or join the deceased person. A second group that contained three of the under 12 boys was "the bad me" markedly self-deprecatory group who made comments of "I'm good for nothing," "I must die," and references to "bad" behavior. The other three groups contained mostly adolescents. In addition to the "bad me group," the authors found that 30 patients in the suicidal group had displayed typical signs of depressive illness (withdrawal, changes in nonacademic and school performance, loss of initiative and self-esteem, crying spells, sleep disturbance, decreased appetite, and diminished motor activity) as noted by the family or teachers for at least one month prior to the suicidal behavior. Despert (1952) was able to identify 26 children (69% males and 31% females) 4 to 16 years of age who met this criteria and five of them had intense suicidal preoccupations and aborted suicide attempts and the rest had varying degrees of depressive moods, but no suicide attempts. The author reviewed the five suicidal cases and determined that only two of them had signs of depression. The author concluded that depression was rarely associated with suicidal preoccupation. This report predates recent work on childhood depression, so use of depressive affect for the criteria is easy to understand. Also the age distribution for the 26 children was not given, so it is not possible to determine what percent of this group were preadolescent.

The studies reviewed in this section suggest that while completed suicides are infrequent in children under 12, that suicidal attempts may actually be under reported. In contrast to the sex ratio of more female than male attemptors among adolescents and adults, boys exhibit more suicidal behavior than girls in prepubertal children (Lawler et al.,

1963; Mattsson et al., 1969). Depression has also found to be associated with suicidal behavior (Lawler et al., 1963; McIntyre and Angle, 1973; Paulson et al., 1978) and positively correlated with the lethality of the attempt (McIntyre and Angle, 1973). Sharma, Berry, and Ghosh (1973) reported a case of childhood depression in a nine year old girl who presented with constant pain around her joints. She made two attempts to jump from her third floor hospital window which led the authors to conclude that this type of self-destructive behavior makes it important to make an early and accurate diagnosis of childhood depression so proper treatment can be initiated.

## CHILDHOOD BEREAVEMENT

There has been considerable interest in the effect of the loss of a parent during childhood has on personality development and adult psychopathology, but a more limited number of studies have looked at the immediate effects this loss has on a child. Caplan and Douglas (1965) examined the children on a waiting list to be seen by a psychiatric clinic in Montreal, Canada. A group of 71 children (58% male and 42% female) who were diagnosed as being depressed or with strong depressive symptoms all of whom had persistent and severe sad mood and 135 non-depressed children (73% male and 27% female) all age 5 to 16 were subjects for this study. The depressed group had experienced significantly more parental deprivation than the nondepressed group (50.7% vs. 23.2%). The depressed group had experienced significantly more losses due to death, divorce, illness, or economic reasons than the nondepressed group. The two groups were equally likely to stay with the remaining parent after the loss of the other one: however, when the depressed group left the home they were more likely to be placed in foster care. This finding lends some support to the contention of Brown (1971) that children are very adjustable and the prognosis for the child following a loss depends more on the presence or absence of deprivation after the loss than on the fact of the loss itself. Caplan and Douglas (1969) were unable to separate out the effects of maternal versus paternal loss given the number

of foster care placements in the depressed group. Caplan and Douglas interpreted their data as supporting the importance of object loss on the development of childhood depression, while Brown's hypothesis of poor post traumatic environment was also supported by this study.

Geiger (1973) studied 22 children between 4 and 14 years of age (64% males and 36% females) treated by a Department of Psychiatry in Budapest, Hungary following the loss of a parent. He observed depression in all 22 of his subjects, but noted that some of the vegetative symptoms (loss of appetite, sleep disturbances, and psychomotor retardation) observed in adult depression were not present in these children. He noted that another characteristic feature of the majority of these children was identification with the deceased parent that took the form of identifying with death itself, identifying with the disease causing death, or identification with personality traits of the deceased. Arthur and Kemme (1969) reported on 83 children who had lost a parent and were treated by a psychiatric unit in Ann Arbor who ranged in age from 4 to 17 (72% males and 28% females). They did not describe any children as being diagnosed as depressed but noted that 35% had a sad affect at the time of evaluation. They found immediate denial of the event followed by a superficial cognitive recognition of the death. The symptomatic expression of depression and anxiety associated with the loss they found extremely variable.

Crumley and Blumenthal (1973) reviewed the psychiatric evaluations of 200 children and their parents (3-18 years of age for the children with 63% male and 37% female) seen by a United States Army child

psychiatry clinic and tried to detect the influence of paternal separation due to duty assignment. They frequently found depressive responses present with many described as latent with psychosomatic complaints and aggressive acting out. They also found a number of children with overt depression characterized by sadness, withdrawal, unhappiness, and their speaking disparagingly about themselves. While the researcher did not report the frequency of this type of reaction they gave several case studies including this one of a 9 year old boy:

Paul was referred six months after his father returned from being away because he was excessively 'nervous' and 'shakey.' He often shut himself in his room and cried. He was a sad, red-haired, freckle-faced boy who tended to assume a pseudomature, superior attitude as he spoke in a sedate monotone. He seemed to be a distant, reserved hard-to-get-to-know youngster. He acknowledged feeling sad and bad at times but didn't know why. He complained of being 'bothered by his conscience a lot.' He felt unable to please his father and was sure his father thought he was a 'sissy.' His mother cried when describing the lack of affection between father and son. Alternating a year at home and a year away, the father had been gone a year when Paul was three, five, and seven (Crumley & Blumenthal, 1973, p. 780).

Crook and Raskin (1975) in a brief report examined the relationship between childhood parental loss and adult depression and suicide attempts. They found the type of loss was important with losses reflecting parental divorce or intentional separation found significantly more often in depressed adult patients attempting suicide than the depressed control group who had not made suicidal attempts. In contrast, the groups were found to have nearly identical rates (approximately 10%) of parental deaths during childhood. While this report is retrospective in method, it suggests that the way the loss occurs or, perhaps as Brown (1971) suggested, the post trauma environment maybe more important than the loss itself.



While the three studies conducted on children that were reviewed here did not evaluate the presence or absence of a syndrome of childhood depression using rigorous criteria, they do note the existence of dysphoric moods and many of the symptoms that have been described as part of a syndrome of childhood depression in children experiencing parental loss. The type of loss and the support available to the child after the loss are factors that may distinguish children who develop depression following the loss of a parental figure from children who experience the same trauma but do not develop a depressive reaction.

## MANIA IN CHILDHOOD

Anthony and Scott (1960) reviewed 28 articles with case reports of prepubertal manic-depressive psychoses reported from 1884 through 1954. They looked for the presence of 10 criteria they felt would validate the diagnosis of manic-depressive psychosis: 1) abnormal state resembling descriptions given by Kraepelin, Bleuler, and Meyer, 2) positive family history, 3) early tendency towards a manic-depressive reaction as manifested by, a) a cyclothmic tendency or b) delirious mania or depressive outbursts occurring during pyrexial illness; 4) recurrent illness with at least two episodes, 5) biphasic illness showing swings of pathological dimensions, 6) endogenous illness showing minimal environmental events, 7) severe illness as indicated by need for inpatient treatment, heavy sedation, or electroconvulsive therapy, 8) abnormal underlying personality of an extroverted type, 9) absence of features of schizophrenic or organic states, and 10) evidence of current not retrospective assessments. They found only three of the reported case histories met five of these criteria and none met more than seven. Anthony and Scott (1960) concluded from this review, "That the occurrence of mania-depression in early childhood as a clinical phenomenon has yet to be demonstrated" (p. 71).

The authors of many case reports contend that their patients do present symptoms that are characteristic of a manic-depressive disorder (Campbell, 1955, 1957; Feinstein & Wolpert, 1973; Sadler, 1952). More

recently there have appeared some additional case studies of manic-depressive illness in children, but these have used adolescents 14-15 years of age as their subjects (Kelly, Koch, & Buegel, 1976; Warneke, 1975; White & O'Shanick, 1977).

Weinberg and Brumback (1976) following the procedure they used to develop diagnostic criteria for childhood depression modified Feighner et al.'s (1972) research criteria for identifying mania in adults to identify that disorder in children. The symptoms of irritability, sleep disturbance, and distractability are found in the criteria for both manic and depressive childhood disorders. In addition, the symptoms of hyperactivity, euphoria, pressure of speech, flight of ideas, and grandiosity are added to complete the syndrome of childhood mania. The authors presented five case studies that met their criteria and reviewed other case reports in the literature and found that several were sufficiently detailed that they could determine if they also satisfied the criteria for a diagnosis of mania. Weinberg and Brumback (1976) noted that increased hyperactivity and irritability were present in all five cases they reported, pressure of speech present in three cases, delusional grandiosity present in one case, sleep disturbance in all cases, belligerence and aggression in three cases, marked distractability in three cases, and denial of problems in two cases. They also observed that these children exhibited many depressive symptoms during their manic episodes and all five children had a clinically recognizable depressive episode prior or subsequent to their manic phases.

McKnew, Cytryn, and Inez (1974) reported a case study of hypomania in a boy who had sustained a physical trauma and displayed grandiosity,

persistent euphoria, and flight of ideas. Weinberg and Brumback (1976) reviewed this report and concluded that the child fit their criteria for a diagnosis of mania. McKnew et al. (1974) also compared this child's urinary metabolites with a control group and found increased excretion of 17-hydroxycorticosteroids and a decreased excretion of 3-methoxy-4-hydroxyphenylethyl glycols. While the authors note that this is a single case report, they found that the results were counter to the findings of these metabolites in manic adults.

Research on the topic of mania in childhood is even less advanced than the research on depression in children. The majority of reports have been case studies or research with very small samples reflecting either the rarity of this disorder, its absence, or lack of clear diagnostic criteria. Cytryn et al. (1974) report that while psychotic forms of affective disorders in childhood are almost nonexistent, neurotic forms of both mania and depression are more prevalent than is generally recognized. The literature seems to support both these contentions with symptoms of psychotic proportions rarely given but ample evidence of cyclothmic affective symptomatology presented. As noted previously, the child's normal use of fantasy increases the difficulty in evaluating whether detachment from reality is psychotic behavior or within acceptable developmental limits.

## TREATMENT

The use of psychotherapy has been advocated in the treatment of childhood depression by a number of clinicians (Boverman & French, 1979b; Frommer, 1968; Toolan, 1978; Malmquist, 1977; McKnew & Cytryn, Note 5). The choice of modality of therapy has not received much agreement reflecting the variety of opinions on treatment selection generated across most of the disorders which are treated by psychotherapeutic techniques. Toolan (1978) suggested working with the child in play therapy, but feels it is imperative that the parents also be seen. He suggested that the same therapist work with both child and parents in order to further their understanding of the parent-child interaction. He notes that suicidal and/or depressed children may create the feeling of boredom in a therapist when he/she is exposed to the child's apparent emptiness or overwhelmed when confronted with the child's deep feelings of hopelessness and despair. Overall, he advocates a psychodynamic treatment that takes into account the child's developmental level. Boverman and French (1979b) also support this approach with individual therapy, but stress an understanding of the child's self-environment relationship as well as intrapsychic processes. Toolan (1978) notes that children employ many defenses to ward off the painful feelings of depression including regression, repression, denial, projection, and somatization. Those children who are reacting to an object-loss frequently show anger and

hostility toward the person(s) they believe deserted them. This anger may get acted out or introjected with the child describing himself as bad or evil. Malmquist (1977) adds compulsive behavior to this list of defenses and suggests that after, "object constancy has been obtained (at approximately 18-36 months), the ability to plug in replacements is severely compromised" (p. 239). He also notes that once the acute aspects of depression have been lifted continuing treatment may become more difficult because the child perceives the psychotherapy as an event that may confront him with pain again.

McKnew and Cytryn (Note 5) suggest that some form of family therapy is the best intervention during the early stages of childhood depression. They use the severity and duration of the depression, the age of the child, and parental motivation to help determine who should be involved in the treatment. They feel that the younger the child the more responsive he will be to environmental changes alone. If the depression is not too severe, then for a child under 8, parent counseling is their treatment of choice. If the depression is more severe or the child is 8 or above, then he should be included in the therapy along with other family members. These clinicians suggest that a nondirective interpretive approach is usually the most successful, but some families respond to a more directive and supportive style of treatment. They describe the goals of family therapy as being to decrease depreciation and rejection of the child through an understanding of the scapegoating process that often occurs in these families. If a major object loss has occurred, then the family receives help in locating substitutes for the child inside or outside of the family system. When the child experienced early

or chronic losses play therapy may be an important adjunct to the family therapy approaches and provide a place where the child can achieve some success and increase his feelings of mastery. After the depression has shown some improvement, group activity therapy may help the child improve his social skills with peers. All of the psychotherapies employed are directed toward providing healthier role models and increasing the child's self-esteem, trust in adults, and expression of feelings.

Frommer (1968) has found that a form of activity group therapy was an invaluable part of the treatment program her hospital used with depressed children. She observed that some children with mild depression were successfully treated by this method alone. The group therapy she described employed psychodrama and art therapy techniques which allowed the children to be creative as well as work through problematic areas. The groups averaged four to six participants, were divided into 7-9 and 10-14 year old age groups, and boys and girls were seen together. Frommer (1968) noted that some children displayed problems that made group participation impossible and they were seen for individual psychotherapy.

The use of chemotherapy in treating childhood affective disorders has been reported in the literature. Frommer (1967, 1968, 1972) has employed both monoamine oxidase inhibitors (MAO) and tricyclic antidepressants in treating depressed children. She observed that children in her uncomplicated and phobic depressive groups responded better to MAO treatment, while her enuretic/encopretic group seemed to do better with the tricyclic amitriptyline. A few children displayed hysterical behavior following administration of the MAO inhibitors and one child

treated with the MAO phenelzine had fainting spells with both problems leading to the discontinuation of the chemotherapy.

Gaultieri (1977) reviewed the use of the tricyclic imipramine hydrochloride in children and found that children often had no latency in the onset of therapeutic action and some children developed tolerance to its therapeutic effects in 8 to 12 weeks which are traits not usually seen when this drug is administered to adults. Ossofsky (1974) reported on the treatment of 220 depressed children with imipramine. She found that the optimal dosage had to be determined individually and was not related to body weight. An interesting finding was that the group of 25 children who had Performance Intelligence Quotients (PIQ) lower than their Verbal Intelligence Quotients (VIQ) on the Wechsler Intelligence Scale for Children (WISC) had the best treatment response with 24 out of 25 in this group described as having excellent treatment outcomes. Many of the performance subtests on the WISC are timed; therefore, psychomotor retardation may have been present in this group. Puig-Antich, Blau, and Marx (1978) reported a pilot study where they treated eight 6-12 year old children with imipramine. They observed full clinical responses in six of their eight subjects after six to eight weeks of chemotherapy. They found somnolence and nausea each present in one of their subjects.

Lucas, Lockett, and Grimm (1965) selected 14 children and adolescents (39% males and 61% females) for a double-blind cross-over study using the tricyclic drug amitriptyline and placebo. They all had the symptom of depression, but a heterogeneous group of diagnoses including



schizophrenia, personality disorders, and psychoneuroses. They ranged in age from 10 to 17 with five of the subjects being under 12 years of age. These children were treated on an inpatient unit in Michigan where the nurses rated nine behavioral characteristics of each child for the purpose of this study. The behavior that showed the greatest improvement was response to controls with half of the 10 children who finished the study showing some improvement in this area. There were three 10 year old neurotic boys in the study and two showed little change while one had the best treatment response as shown by improvement in five of the behavioral areas, however, the subjective impression he gave was of more frequent depression. This study used small daily doses with all but one child receiving 30-50 mg. in contrast to Frommer (1968) who gave children over ten years of age 50-1000 mg. a day of amitriptyline. The low dosage as well as the heterogeneity of the diagnoses might help explain the poor treatment response to the drug obtained in this study.

Connell (1972) found dramatic improvement using tricyclic antidepressants in treating four children who had chronic depression and family histories of depressive illness. Polvan and Cebiroglu (1971) also endorsed the use of antidepressant medication, but their study reported from Turkey describing multidrug therapy, so it is difficult to evaluate the importance of the antidepressant medication in their treatment regimen.

Weinberg et al. (1973) recommended chemotherapy with tricyclic antidepressants for 34 of the 45 children in their study who were depressed. They found that of the 19 children who received this treatment,

18 showed definite improvement while only 6 of the 15 nontreated depressed children improved. Ling et al. (1970) also used the tricyclics to treat 9 out of the 10 children in their study who presented with headaches and depression. They judged seven of the children to have marked improvement and the other two mild but definite improvement.

These studies taken cumulatively suggest that antidepressant medication particularly the tricyclic antidepressants may have some efficacy in the treatment of depression. The one double-blind study that used a placebo control found negligible improvement, which raises the question of how much of the improvement is due to the drugs and how much is due to spontaneous remission, other concurrent therapies, or the increased attention the child receives as being a participant in the study. The two studies with the largest samples (Frommer, 1968; Ossofsky, 1974) did not give explicit criteria for inclusion in the depression group, which combined with the heterogenous populations employed in some of the other studies raises further doubts as to the validity of these findings. There is a strong need for placebo and active drug studies with carefully picked populations before antidepressant medication is employed routinely in treating childhood depression.

Lithium carbonate has been widely accepted for prophylactic and acute treatment of adults with manic episodes. Youngerman and Canino (1978) surveyed the literature on the use of lithium carbonate in the treatment of children and adolescents and unlike the majority of workers in the field they defined these terms with children referring to 3 to 12 year olds and adolescents to 13 to 19 year olds. They found reports

describing the use of lithium carbonate with 190 children and adolescents with 46 having sufficiently detailed case histories that they could be evaluated further. Twenty of the reported cases (only two of which were children) described rather typical manic-depressive illness that had successful treatment responses when administered lithium carbonate. There were an additional 58 cases, 15 of which were described in detail (two were children) that responded to the lithium, but lacked clear bipolar manic-depressive symptoms. These 15 cases had mood disturbances, but frequently other symptoms were more prominent.

Annell (1969) reports that one advantage to the use of lithium carbonate is that the drug acts quickly within 6 to 10 days, so if no improvement is observed after two weeks the drug should be discontinued. None of the eight children (8-15 years of age) she treated with lithium displayed typical manic features, but several showed signs of a deep depression. Annell noted that the children in this group had rapid onset of symptoms which has been found characteristic of bipolar manic-depressive illness in adults. This led her to hypothesize that depressed children who do not respond well to antidepressants may belong to the bipolar manic-depressive group and be responsive to treatment with lithium. Annell (1969) found the response to treatment in her subjects was excellent with the principle effects not so much symptom suppression as the child's behaviors and moods becoming more stable and normal as exemplified by an 8 year old girl's comment about herself, "'I've been sick and had a horrible dream lasting for months, but now I'm all right again'" (p. 297). Shou (1971) reports that children's kidneys are able

to secrete lithium rapidly and therefore children can tolerate relatively large doses. He concluded from his review of the literature on the use of lithium in children that they have fewer side effects when at the recommended serum levels than adults do and he noted an absence of reported cases of lithium intoxication in the literature. The need for close monitoring of serum levels of lithium is still as important in children as in adults, but once the proper dose has been established the blood tests can be performed less frequently. Shou's overall evaluation is that while clinical experience with lithium treatment in children and adolescents is still very limited, some of these preliminary experiences show considerable promise. The group of symptoms or types of children the drug may be effective for has still not been defined. Shou cautions against the use of positive treatment response to lithium being the basis for making a diagnosis of manic-depressive illness. While lithium has been found effective primarily in treating adults with manic symptoms, its effect on children may be somewhat different. A study by Sheard (1975) found some indications of decrease in aggression in delinquent youths aged 16 to 23 who were treated with lithium. Given, the limited knowledge that is currently available on defining manic-depressive disorders in children as well as the limited experience clinicians have had using lithium carbonate with this population, the drug should probably be reserved for research purposes and as a last resort after other treatment methods have proven ineffective. Lena and O'Brien (1975) report the latter circumstance in a letter describing the case of a 9 year old boy who had experienced multiple deprivations from early

childhood and presented with a severe behavior disorder. They found that he was unresponsive to other chemotherapy, but the lithium improved his behavior and made him more responsive to other forms of intervention including a special school that was preparing to exclude him prior to his behavioral improvement.

The use of inpatient hospital settings, residential treatment centers, or boarding schools to remove the child from a noxious home environment while undergoing treatment has received some limited support. Frommer (1968) felt that this approach was beneficial for some children and praised the London Boarding School for the programs they offered. McKnew and Cytryn (Note 5) found that contrary to their expectations brief hospitalizations usually helped produce relatively prompt and sustained improvement in children they classified as having acute and chronic depressive reactions. They concluded from this experience that brief hospitalization may be an effective form of crisis intervention with depressed children.

The literature on the treatment of childhood depression seems to indicate that psychotherapy is currently the treatment of choice with some form of parental involvement either through family therapy or concurrent parent counseling essential. A play therapy approach was the technique of individual therapy referred to most often and was advocated in children presenting with a more severe depression. The use of group therapy to treat problems with socialization was recommended, but it was noted that this form of treatment might need to be delayed in more severe cases until some improvement resulted from individual psychotherapy. The

use of chemotherapy has attracted increasing attention and antidepressant medication particularly the tricyclic antidepressants may be an important adjunctive treatment. The experience with lithium carbonate is even more limited and its use appears warranted only in children displaying biphasic affective disorders who have not responded to more traditional treatments. These conclusions are based on a literature that is comprised almost entirely of case reports and pilot studies. More carefully controlled outcome studies are needed to evaluate the efficacy of the recommended psychotherapeutic techniques as well as the chemotherapies.

## ETIOLOGY

### Psychodynamic Viewpoint

The concept of loss has frequently been viewed as a central dynamic feature in adult depression (Pozanski, 1979). It is not surprising then that this concept has attracted the most attention in discussion of the psychodynamic causes of childhood forms of this disorder. Malmquist (1972) reviewed the work of Melanie Klein and described her position that children who do not securely introject the presence of a love-object in the ego lack assurance of the mother's love and will remain predisposed to a depressive position. Sandler and Joffe (1965) propose a much broader concept of loss and refer to the loss of a state of well being rather than the referent being a love-object. Therefore, if following the loss of a parent another parent or other substitute figure is provided, the child may not experience the loss of well being and the outcome, rather than the loss itself may be important. Graham (1974) expanded upon this point and added separation from siblings or peers, maternal deprivation leading to psychological rather than physical absence, and physical illness as events which could engender the feelings of loss in a child. Brandes (1971) adds that the meaning of a long separation and death are experienced in very similar ways by young children. He finds that a move from a familiar environment with its familiar surroundings, loved friends, and cherished possessions can also be experienced as a loss.

Bowlby (1972) proposes that loss of a parent not only elicits primary separation anxiety and grief, but that aggression is also a part of the mourning process and serves the function of attempting to create a reunion with the lost love-object.

Spitz's (1972a, 1972b) research on the response of infants to maternal deprivation found that the amount of maternal interaction the infants received was important. He observed some deprived infants displaying marked developmental retardation. Bowlby (1961) described the sequence of behavior when a child is separated from maternal figures and given to the care of strangers during the period of 12 months to four years as protest, despair, and detachment. He reviewed the concept of separation anxiety and made the distinction between that concept and depression and mourning which he felt were reactions that followed the loss of the maternal figure.

Malmquist (1972) discusses two other factors that can lead to the child's developing a depressive proneness. The first is the child's development of a self-concept through other peoples evaluations. When the adults in the child's environment make repetitive criticisms and devaluing remarks, the child internalizes a feeling of unworthiness. The second factor is the child internalizes these standards in the form of a punitive super-ego. This adds to the depression proneness as the child experiences chronic shame and guilt because of an inability to live up to rigid standards of performance.

The features of psychodynamic theory that have been applied to understanding the onset of childhood depression are a broadened concept of loss being the precipitant in a child who may have had negative early



child rearing experiences that created a poor self-image and overly critical super-ego.

### Biological Viewpoint

Cytyn, McKnew, Logue, and Desai (1974) have conducted a preliminary study investigating the applicability of the catecholamine theory to childhood depression. This theory of adult affective disorders hypothesizes that the amount of norepinephrine available at neuronal receptor sites affects an individual's functioning with a depletion having been observed in depressed patients and an increase of this amine in patients with mania. The researchers studied eight depressed and one hypomanic subjects (6-12 years of age) who they saw on an inpatient unit. The children had received no medication for two weeks prior to admission and were maintained on a low catecholamine and indolamine diet during the study. They classified the children according to their classification system for depression (Cytyn & McKnew, 1972) and labelled four subjects chronic depressive, three acute depressive, one masked depressive, and one hypomanic. A group of 22 boys 10 years of age from a private school were used as a control group. The 24 hour urine excretion for the depressed group showed six of the eight patients with lower norepinephrine excretions in comparison to the controls while the vanillylmandelic (VMA) excretion was lower in seven of the eight depressed patients. The findings with the hypomanic patient were reviewed in the Mania section of this paper (McKnew et al., 1974). The authors tentatively concluded from these studies that changes of urinary metabolites do occur in affectively disturbed children and those with chronic affective disorders have more clear cut differences.

Another report of biological changes in a depressed child as measured by electroencephalograph (EEG) sleep patterns has appeared (Kane, Coble, Conners, & Kupfer, 1977). This study presented a case history of an 11 year old girl who presented with symptoms of depression and suicidal ideation. She was evaluated in a sleep laboratory and disturbances in her sleep continuity were observed. She also had an abnormally short latency for the onset of rapid eye movement (REM) sleep. The authors noted that these findings are similar to those reported in depressed adults but caution against generalizations based on a single case.

These studies suggest that some of the biological correlates of depression in adults may be present in children. While the catecholamine theory has attracted ongoing research in adults, the issue of causation is still unclear with the possibility that depressive syndromes cause biochemical changes as plausible an explanation as the hypothesis that a biochemical defect causes the behavioral manifestations of a depressive syndrome. The very limited sample size used in these studies of depressed children makes it unwise to place too much confidence in these findings.

#### Genetic Viewpoint

Many studies have appeared investigating a genetic factor in the transmission of adult depression particularly manic-depressive illness (Lewis & Lewis, 1979). Welner, Welner, McCrary, and Leonard (1977) investigated the applicability of the genetic model in childhood depression. They screened all psychiatric patients in a St. Louis hospital seen during the second half of 1975 for the presence of primary depression using the criteria developed by Feigner et al. (1972). Those patients who met the

criteria and had children 6-16 years of age (probands) were asked to participate (34 patients agreed) and a control group of public school children whose parents lacked a history of mental illness was selected. There were 75 probands (mean age 11.8 and 55% boys and 35% girls) and 152 control subjects (mean age 12.6 years and 66% boys and 34% girls). The mothers were interviewed regarding the presence of behavior problems and 50% of the probands and 86% of the control group were also interviewed. The researchers found that 8 of the 75 probands (11%) had five of eight depressive symptoms. They were children of six mothers and one father or 25% of the hospitalized patients in the study. In contrast, none of the children in the control group had even four of the eight depressive symptoms ( $p < .01$ ). Five of the eight children who displayed over five depressive symptoms fulfilled Feighner et al.'s (1972) criteria for a probable (two cases) or a definite (three cases) diagnosis of depression. None of the controls met the criteria for a diagnosis of probable or definite depression. The authors discussed the methodological problems with their study including the need for a contrast group of hospitalized nonpsychiatric mothers to control for the effects of parental deprivation, and the study's inability to separate out genetic from environmental influences. They did conclude that depressed parents are more likely to have depressed children than well parents.

McKnew, Cytryn, Efron, Gershon, and Bunney (1979) studied the offspring of 14 consecutive patients with bipolar or unipolar affective illness admitted to the hospital at the National Institute of Mental Health. They made their diagnoses using the RDC criteria developed by Spitzer et al. (1977) and given in Table 1. They excluded children whose

intelligence quotient was below 90 and the remaining 30 children (47% boys and 53% girls) ranged in age from 5 to 15. Each child was given a structured interview twice at an interval of four months. The interviews found 9 of the 30 children to be depressed at both interviews, 14 were depressed at one interview, and 7 were not depressed at either interview. The interviews did not detect hypomania in any of the children. While they found no significant differences in the frequency of depression between sexes, the boys tended to show depression at both interviews, while more girls appeared depressed during only one evaluation. They also found that depression was not correlated with age and most of the depressed children in the study displayed symptoms of a primary affective disorder.

The studies conducted by Welner et al. (1977) and McKnew et al. (1979) support the hypothesis that affective disorders are transmitted in families. Whether the form of transmission is genetic or environmental, was not tested by the design of these two studies. The hypothesis that children of parents with a clearly diagnosed affective disorder are at risk to develop a similar disorder needs to be investigated further. If additional studies validate this concept, then subsequent research might help identify the means of transmission and suggest methods of appropriate intervention.

### Environmental Factors

While the data to support a genetic mode of transmission from parent to child is scanty, there has been more attention given to the environmental effect of living with a depressed parent. Several authors

have proposed that one effect is the child identifying with the depressed parent and taking on and displaying that parent's symptoms (Brandes, 1971; McKnew & Crytryn, 1973; Pozanski & Zrull, 1971). Another possible effect is the parent's decreased involvement with the child which can be experienced as a loss (Katz, 1977; McKnew & Cytryn, 1973). The presence of marital discord characterized by aggression and hostility with the child being scapegoated and made the recipient of the hostility has also been suggested as a possible etiological factor. Pozanski & Zrull (1973) who made this hypothesis found that the depressed children they studied had more often experienced parental loss through divorce and abandonment than death. The presence of an overly strict parent or one that constantly denigrates the child can also contribute to the child's feeling worthless (Bemporad & Wilson, 1978; Brandes, 1971). The child's role within the family has also been singled out for attention with Malmquist (1971) suggesting that a child who is selected as the favorite, "the Joseph syndrome" (after the biblical theme) has difficulty with peers and intrafamilialy and may develop a depressive reaction.

Widmer, Cadoret, & North (1980) studied the families of a group of depressed patients (154) seen in a rural family practice setting and matched a group of nondepressed patients and used their families as a control group. They found that children (under 18 years of age) in the families with a depressed parent were seen significantly more often by a physician during the 18 months preceding the parent's diagnosis. During the six months preceding the depressed patients' diagnosis until six months afterwards, the children of these patients presented with significantly more frequent complaints of functional problems than the children

in the control group. The children of the depressed patients had functional complaints associated with the gastrointestinal system 63% of the time (nausea, vomiting, diarrhea, and colic) and complaints associated with the central nervous system 31% of the time (primarily fatigue and dizziness). The spouses of the depressed patients also exhibited significantly more somatic complaints than the control group. A number of hypotheses could explain these findings including common stressor (i.e. death in the family or loss of a job) affecting the whole family, the impact the loss of function of the adult family member experiencing the depression has on the rest of the family, or family members adopting the depressed member's symptoms.

The hypotheses put forward regarding environmental stress appear to resemble the psychodynamic hypotheses in suggesting that the physical or emotional loss of a parent or a hostile environment leading to lowered self-esteem may be implicated in creating childhood depression. In contrast the genetic and/or biological models, propose that an internal factor may predispose the child towards developing a depressive disorder.

#### Behavioral and Cognitive Models

The behavioral/learning theory approach to the concept of depression hypothesizes that the depressed individual display reductions in overt behavior because they receive inadequate or insufficient reinforcements. This low level of reinforcement could occur due to the loss of a person providing the reinforcers, lack of social skill in eliciting them, or a role status change that decreases their availability (Kovacs & Beck, 1977). This approach does not define the nature of depression, instead it

offers a theoretical model that could be subjected to empirical investigation of the depressed individual's environment to test the theory's validity.

The learned helplessness model of depression hypothesizes that individuals who through previous experience learn that their behavior is ineffective in controlling the outcomes of events develop lower cognitive expectancies of future success. Abramson, Seligman, and Teasdale (1978) reformulated this model taking into account attribution theory and proposed that three attributional dimensions are important in understanding depression: internal-external, stable-unstable, and global-specific. This model proposes that attributing lack of control to internal factors leads to low self-esteem, in contrast to attributing lack of control to external factors which does not. If the attribution is perceived as persistent (stable) then the learned helplessness is generalized across time and if the cause is perceived as global rather than specific then the helplessness generalizes across situations. The reformulation focuses on whether an individual perceives the outcome of an event as contingent on a response not within his repertoire, but within the repertoire of a relevant other (personal helplessness) or if the individual perceives the outcome as contingent on a response that not only is outside his repertoire, but outside any relevant person's ability (universal helplessness). The new model would propose that personal helplessness leads to internal attributions whereas universal helplessness leads to external attributions of causality. Abramson et al. (1978) reviewed the literature on adult depressive's attributions for success and failure and concluded that depressives often make internal, global, and stable attributions

for failure and may make external, specific, and unstable attributions for events with positive outcomes.

Beck (1973) has developed a cognitive theory of depression that assigns a central role to a cognitive triad in depression. This triad consists of the depressed individual's view of self as inadequate and worthless, view of the world as overly demanding and a source of defeat and disparagement, and a view of the future that predicts the individual's problems will continue and is experienced as a pervasive hopelessness. This leads to the depressed person assuming responsibility for the outcomes of negative events and discounting his responsibility for positive outcomes because these interpretations are consistent with the depressed individual's self-perception and perception of the world. It can be seen that the reformulation of Seligman's learned helplessness theory has made it very consistent with the cognitive theory of depression. Both approaches now would predict that depressed individuals would make external attributions to positive events and internal attributions to negative events.

Abramson and Sackeim (1977) observed that helplessness and self-blame are frequently associated with depression and together they would predict that individuals will assume responsibility (internal attributions) for events that they neither cause nor control. They note the illogical features of this paradoxical position and propose a partial resolution. If an individual feels he could have done better but because of a personal deficit lacked the appropriate response, then an attribution of personal responsibility would make some sense (personal helplessness). However, this does not entirely remove the logical



incompatibility in a depressed person's beliefs in uncontrollability and self-blame. Both Beck's theory and the reformulated helplessness model would predict that depressives make this paradoxical attribution.

Moyal (1977) tested all the fifth and sixth grade children in a Toronto school (N=225) for depressive symptoms and their attributions to 20 imaginary situations. She also tested their locus of control and self-esteem. She found that locus of control tended to be positively correlated with depression (externality and depression were at the top of the scales). The children had four response options to the imaginary situations including adaptive, helpless, blaming, or self-blaming responses. The depression score was found to be negatively correlated with the choice of adaptive responses ( $r=0.37$ ) and positively correlated with choice of helpless ( $r=0.24$ ), self-blaming ( $r=0.30$ ), and externalizing-blaming ( $r=0.22$ ) responses. Moyal concluded that the finding of depression associated with an externalizing locus of control was consistent with the view of learned helplessness associated with depression as proposed by Seligman, and the nonadaptive responses of self and other blaming and helplessness are consistent with the cognitive model of depression.

Kendall, Garber, and Leon (Note 1) tested 138 children (mean age was 10.7 years) using the PIC depression scale and then studied 21 subjects who scored at the high end of the scale and 21 who scored at the low end. They also gave the children a Cognitive Processes Inventory for Children (CPIC) which contained eight familiar situations and four follow-up questions that tapped aspirations, positive or negative expectations, internal or external attributions and the affect (positive or negative)

associated with the event. The results showed that depressed children significantly more often ( $p < .05$ ) attributed positive events to external causes than nondepressed children. A median split of the 42 children using their scores on the Child Depression Inventory (CDI) developed by Kovacs and Beck (1977) found that depressed children attributed negative events to internal causes significantly more often than did children with low depression scores. A significant correlation was found between the CPIC and age with older children more likely to make internal attributions for positive events ( $r=0.29$ ) and less likely to make internal attributions for negative events. The reason for the two different criteria for depression, a parent report (PIC) and self-report (CDI), in these analyses was not given nor was the age range elaborated on to provide a better understanding of the developmental findings.

Lefkowitz, Tesing, and Gordon (Note 2) investigated the relationship between childhood depression, family income, and locus of control. They used 944 fourth and fifth grade children (48% male and 52% female) from ten urban public schools. They modified the CDI to obtain self-ratings of depression and employed a peer nominating technique and a teacher's report to assess the depression from these viewpoints. The authors hypothesized that 1) family income and depression would be inversely related, 2) high depression would be associated with external locus of control, 3) these effects would be cumulative, making depression greatest when low income and externality coincide, and 4) low income will be associated with externality and high income with internality. They found that depression had a significantly ( $p < .001$ ) negative correlation with income using all

three measures of depression ( $\underline{r} = -0.13$  to  $-0.23$ ) which supported their first hypothesis. Their second hypothesis that externality was positively correlated with depression was also supported for all three measures of depression ( $\underline{r} = 0.17$  to  $0.34$ ) and their fourth hypothesis that externality (high on the locus of control scale) would be negatively related to income was also substantiated by a significant ( $\underline{r} = 0.36$ ,  $\underline{p} < .001$ ) correlation.

The third hypothesis was tested using a two way analysis of variance with depression as the dependent measure and income and locus of control each assigned three values. The predicted outcome was obtained for both peer and teacher ratings of depression with depression greatest for externals from the lowest income, however the interaction effect was not found to be significant using either of these measures of depression as the dependent variable. In contrast, the self-rating of depression did yield a significant interaction between income and locus of control ( $\underline{p} < .02$ ), but the results were not consistent with the hypothesis. Depression was found to be highest under the conditions of an intermediate locus of control and low income. The authors felt that the findings of the highest depression score under the low income and external conditions with two of the three dependent measures supported their theoretical position that, "the inability to effect change under conditions of material impoverishment (learning that response and reinforcement are non-contingent) produces feelings of hopelessness and helplessness culminating in depression" (Lefkowitz et al., Note 2, p.9).

The findings of Moyal (1977 and Lefkowitz et al. (Note 2) that children showing signs of depression have a more external locus of

control than nondepressed children supports the learned helplessness model that views depressed individuals as perceiving themselves as exercising little control over their environment. Beck's cognitive theory of depression found support in the observation that depressed children make nonadaptive attributions of causality (Moyal, 1977) and the finding that they make external attributions to positive events and internal attributions to negative events (Kendall et al., Note 2).

## SUMMARY AND HYPOTHESES

### Summary

The literature reviewed in this paper suggests that some children display a dysphoric mood in combination with several other symptoms and that these symptoms reduce the child's ability to function at home and in school. This syndrome or combination of symptoms has been frequently given the label of childhood depression. This syndrome appears to resemble the syndrome of depression found in adults, but longitudinal studies have not been of sufficient duration to discover if childhood depressives become adult depressives. While several subclassifications of childhood depression have been offered, none of them has attracted widespread support, although the hypothesis that the constellation of depressive symptoms changes during the childhood years, has been found to be consistent with the results of a couple of studies. The reported prevalence of childhood depression has varied widely depending on the definition of depression and the population investigated. The occurrence of manic symptoms in children has been reported mostly by case studies and this form of affective childhood disturbance is even less understood than childhood depression.

There is also some evidence that childhood depressions occur not only as a discrete disorder, but frequently may be a complication of another emotional or physical problem. Many children who display suicidal

behavior have also been found to have symptoms of depression. In contrast to the sex ratio observed in adolescents and adults, boys are found to more frequently present with suicidal behavior than girls. Symptoms of depression have also been observed in children experiencing parental loss.

Various treatment approaches to childhood depression have been described, but some form of psychotherapy is almost universally employed with antidepressant medication reported as beneficial in several studies.

The etiology of childhood depression is still primarily a matter of conjecture with most of the theories regarding the causes of adult depression being extrapolated to this younger age group. The child's experiencing some form of loss is the construct discussed more often, but little empirical evidence has been generated to validate this hypothesis. A few scattered reports have also presented evidence that would support biological, genetic, and cognitive theories of childhood depression, but none of them has received substantial confirmation.

The tendency of many investigators to indiscriminately lump adolescents and children together as well as the frequent failure of researchers to define their criteria for determining the presence of depression has made it difficult to compare these studies.

### Hypotheses

The first study was designed to ascertain the frequency with which a syndrome of childhood depression is found in a population of 6 to 11 year old boys being seen by a Community Mental Health Center (CMHC). This age range was selected so that it would be prepubertal and girls were not included because they are seen less frequently than boys in this type of setting. The frequency with which individual symptoms are

reported in depressed and nondepressed groups in this population will also be examined to evaluate which symptoms reflect general psychopathology and which are more pathonomic of depression. The previous reports that symptoms of dysphoric affect are found more frequently in younger children while symptoms of self-deprecatory ideation are seen more often in older children will also be tested. Several demographic variables will be examined to see if they distinguish the depressed from nondepressed groups and the type of treatment recommended for depressed children will also be evaluated to see if any special treatment approach is directed towards this group of boys. The demographic variables will include family income so the hypothesis that depression is inversely related to income can be tested.

The studies done by Moyal (1977) and Kendall (Note 1) found depressed children making self-blaming responses to events, while Moyal's (1977) and Lefkowitz et al.'s (Note 2) studies reported depressed children with an external locus of control or feeling helpless to influence the way events turned out. The paradox of depressed individuals feeling both responsible and helpless was elaborated on by Abramson and Sackeim (1977). An empirical investigation to see if depressed children will attribute internal factors as responsible for uncontrollable events would help substantiate the existence of this paradox. If the paradox is confirmed and depressed children give external attributions to uncontrollable positive events significantly more often than nondepressed children, then the cognitive theory of depression and the reformulated learned helplessness theory of depression will have been supported.

As a preliminary step to testing these hypotheses, the second study will describe the construction of an instrument to evaluate the attributions children make to positive and negative events that vary as to their controllability. The individual items in this instrument will be rated to check on the content validity of the dimensions of how positive the event would be (this variable was labelled "Good") and how much influence an individual could exert over its occurrence (this variable was labelled "Control"). These ratings will be used to reduce the number of items in the scale from 48 to 28 (12 to 7 for each group) to increase the validity of the subscales. The first hypothesis is that the positive and negative groups created through this process should be significantly different on the variable Good with Control held constant and the second hypothesis is that the high and low Control groups would be significantly different with Good held constant. The scale would also have greater internal consistency if the two positive and two negative groups were not significantly different from each other (hypothesis three) and the two high and two low control groups were not significantly different from each other (hypothesis four). The predictions of the type of attributions made by depressives and normals are that depressives would make internal attributions to positive events and external attributions to negative events regardless of the Control variable, while normals would make internal attributions to high Control events and external attributions to low Control events irrespective of the Good dimension. Therefore the conditions positive controllable and negative uncontrollable place depressed and nondepressed subjects at different ends of the internal-external continuum, while the conditions positive uncontrollable and



negative controllable would be responded to in a similar manner by both groups. Since the level of depression of the subjects is not being assessed in this pilot study, it is only the conditions where the variable depression is not predicted to be influential that will be tested. Hypothesis five predicts that the subjects in Study 2 (both depressed and nondepressed) will make more internal attributions to negative controllable events than to positive uncontrollable events.

## STUDY 1

### METHOD

#### Subjects

All the 6-11 year old boys who were listed as active treatment cases on January 31, 1980 at the Northwest Center for Community Mental Health in Reston, Virginia were included in the study. The date used to establish their age was March 31, 1980. The Northwest Center is a federally funded community mental health center that is also part of the Commonwealth of Virginia and Fairfax County's mental health delivery systems. It provides services to a catchment area in Northern Fairfax County which is part of the Metropolitan Washington, D.C. area. A group of 110 boys were found to meet the criteria of 6-11 years of age and being an active Northwest Center case. The group was 86.4% Caucasian, 12.7% Black and 0.9% with mixed racial descent. The religious composition of the group was 48.2% Protestant, 20.9% Catholic, 4.5% Jewish, and 26.4% no religious affiliation or other denominations.

The group consisted of 10.9% boys 6 years of age, 12.7% boys 7 years of age, 23.6% boys 8 years of age, 16.4% boys 9 years of age, 18.2% boys 10 years of age, and 18.2% boys 11 years of age. The mean age for the group was 8.7 years. Many of the children had been in treatment for a period of time so their mean age at intake was approximately one year

younger (7.7 years). While the catchment area is mostly upper middle class, there are also low income housing projects. The family income reported for this group ranged from \$0 to \$70,000 with \$19,000 the mean income.

### Apparatus

A coding form was constructed to collect the data for this study (Appendix 1). A group of demographic variables that were relevant to this study were identified in the literature and then checked against the data that was available in the Northwest Center's records. After pilot testing and revising the coding form, the demographic and developmental variables (i.e. age, race, and age when first learned to talk) that were available from the records and relevant to this study were included. The symptom groups and individual symptoms used to describe childhood depression by Brumback et al. in 1977 (see Table 3) were included on the form. A survey of the literature reviewed here was done to locate additional symptoms associated with childhood depression. These additional symptoms were placed in the most appropriate symptom group. The coding form was constructed with the coded numbers to be placed in the right hand margin to facilitate data processing.

### Procedure

The names of all 6-11 year old boys who were active clients of the Northwest Center were located using their Intake Cards and a coded list of that data. Each boy was assigned a research identification number. Then the boy's clinical charts were located for review.

The demographic data was taken primarily from the Intake Card with some updating and missing information (i.e. changes in marital status of

parents) located in the Clinical Intake Report or other reports. The developmental information was derived primarily from the Parent's Questionnaire with the Intake Report and a Social History when available providing missing information.

The chart was reviewed for descriptions of the child's symptoms that could be coded under 1 of the 10 symptom group headings. If the term used in a report to describe a symptom was not identical or synonymous to the term(s) for a symptom category, but was very close in meaning, then it was coded under that category with the term used noted on the form. If the term describing the symptom, was relevant to a symptom group, but did not fit any of the individual symptoms, then it was coded under the "other" category for that symptom group and described.

In addition to recording the presence or absence of each symptom in the boy's records, the source of the information of the symptom was recorded. If more than one source was found, they were all noted on the coding form, but only one was included for data processing. The more direct observations were given preference with "observed by clinician" given preference over the other categories. Teacher reports were given preference for the "change in school behavior" symptoms.

The following documents were included in the data base. An Intake Card completed by clerical staff at the time the child and/or parent came in for their first clinical interview. An Intake Report was completed by the intake clinician based on observations and information collected during the intake interview(s). A Staffing Report that contained information described the presenting problem, and a multidisciplinary

treatment team's evaluation, diagnosis, and treatment recommendations. A Teacher's Report was sent to the parents with the request that the child's teacher complete the form and return it to the Northwest Center. A Parent's Questionnaire was also mailed to the parent with the request that it be brought to the intake. Reports of outside agencies, physician evaluations, psychological evaluations, social histories, treatment progress notes, and restaffings were also available in many of the charts.

The 110 subjects were divided into six groups based on how well they fit Brumback et al.'s (1977) criteria for childhood depression (see Table 1). This criteria calls of the child to display both the cardinal symptoms of dysphoric mood and self-deprecatory ideation plus two or more of the eight remaining symptoms. These groups were labeled Severely Depressed, Moderately Depressed, Dysphoric Mood, Self-Deprecatory Ideation (SDI), Not Depressed and Other. The criteria for the Severely Depressed group was that the child display both the cardinal symptoms plus four of eight additional symptoms. The criteria for the Moderate Depression group was that the child display the cardinal symptoms and two or three of the eight remaining symptoms. The criteria for the Dysphoric Mood group was that the child have the cardinal symptom of dysphoric mood, but the cardinal symptom of self-deprecatory ideation be absent and at least two of the remaining eight symptoms be present. The Self-Deprecatory Ideation group was required to have that symptom, but not any sign of dysphoric mood plus they were required to have at least two of the remaining eight symptoms. The Not Depressed group was required to have no symptoms of dysphoric mood or self-deprecatory ideation, and there was no requirement regarding the presence of the remaining symptoms. The Other group

contained subjects who failed to meet the criteria for inclusion in one of the other five groups.

If a boy had any of the individual symptoms marked present in a symptom category (i.e. sadness or hopelessness under dysphoric mood), then that symptom category was considered present. The majority of the individual symptoms under each symptom category were used for determining the groups, but some items were left out because they may not have fit the symptom group closely enough or were symptoms that were not currently present. The symptoms on the Coding Form (Appendix I) that were excluded from use in forming symptom groups were under I Dysphoric Mood the symptom anxiety; under II Self-Deprecatory Ideation the symptoms obsessions, low self-esteem or poor self-esteem, and altered preception; under IV Sleep Disturbance the symptoms nightmares, sleep walking, nocturnal enuresis, and other sleep disturbances; under VI Diminished Socialization the symptoms poor social judgement and phobias; and under VIII Somatic Complaints the symptoms clumsiness and past enureses.

## RESULTS

The 110 boys were divided into six groups according to the severity of the depression with 22 boys fulfilling the criteria for the Severely Depressed group and an additional 17 boys who fulfilled the criteria for the Moderately Depressed group. The combining of the two Depression groups show that 39 of the 110 boys (35%) met Brumback et al.'s (1977) criteria for a diagnosis of childhood depression. The largest group contained 37 boys who displayed Dysphoric Mood (34%), but not self-deprecatory ideation. Six boys were placed in the Self-Deprecatory Ideation group (SDI) for displaying this symptom, and having no evidence of dysphoric mood (5%). There were 22 boys who were placed in the Not Depressed group (20%) and lacked both the cardinal symptoms for childhood depression. An additional six boys were placed in the Other group (5%), for failing to meet the criteria for inclusion in any of the other five groups.

A cross tabulation was done to generate frequency tables on the different demographic and developmental variables for each of the six groups as well as performing chi square analyses to evaluate if the relationship between the group placement for depression and the descriptive variables was significant. Only one of the comparisons between group placement and the descriptive variables were found to be significant at

the  $p < .05$  level. However, some of the differences while not reaching significance are of interest.

The referral source that got the children to the clinic was examined and it was found that of the boys referred by mental health specialists outside the clinic 6 of 10 were in the Severely Depressed group. The income variable was reduced to five levels and there was no significant difference found between income and severity of depression. An examination of the two Depressed groups showed a very even distribution of the boys in these groups across income levels. The source of the parental income (father, mother, both, or other) was studied and no meaningful trends were observed between the groups. The marital status was not found to be significantly different either, but an interesting observation was that the highest percentage of boys whose parents first marriages were intact were in the Severely Depressed group (50%). The racial composition of each of the subgroups was consistent with that of the entire sample. The religious composition of the groups showed that Protestants were over represented in the Severely Depressed group (68%) in comparison to their presence in the total sample (48%).

Whether or not the child had a previous psychotherapy experience was found to be not significant in a comparison of the groups, but the boys in the two Depressed groups had been seen more often on an outpatient basis prior to referral (Severely Depressed-36%, Moderately Depressed 24%, Dysphoric Mood 19%, SDI 0%, Not Depressed 18%, and Other 17%). The Severely Depressed group also had a history of members of their families being seen slightly more often for therapy than the other groups (57% vs.



17% to 50%), and the Severely Depressed group more frequently had both parents involved in the treatment efforts.

The age of the boys in each of the groups was fairly evenly distributed with the Severely Depressed group slightly older with a mean age of 8.9 years, the Not Depressed group was the youngest with a mean age of 8.3 years, and the other three groups all had mean ages of 8.8 years. These differences were not significant.

The family size of the boys showed significant differences between the groups ( $\chi^2(25)=39.72$ ,  $p < .05$ ) with the Severely Depressed children coming from larger families with 32% of that group having five family members and 18% six family members. This is related to the finding that this group also had the highest percentage of parents who were married. The number of siblings, while not significantly different between groups showed the Severely Depressed group having the highest percentage of two siblings (41%) and the lowest percentage of being the only child (9.1%). Information on birth order was not available in the records. The number of moves made by the child's family was examined, but no trends were found.

The developmental milestones and birth histories of these groups were compared. The birth difficulties were reviewed and forceps deliveries were evenly distributed, only one "casearean section" was reported (Dysphoric Mood group), while all six boys with premature birth histories were found in the Not Depressed group. There was a description of the length of labor in only 62% of the cases; however, none of the available data produced meaningful intergroup differences. There were no meaningful trends found between the groups for the developmental

milestones of beginning to talk, walk, and successful completion of toilet training.

There were 7 boys in the total sample who were in self-contained learning disability classrooms and 14 boys who were attending a learning disability resource class. Both of these groups were fairly evenly distributed among the six severity groups.

The DSM II diagnoses assigned to the six groups were not found to be significantly different. The Behavior Disorders of Childhood (308) was the most frequently employed group of diagnoses with 56.3% of the boys in this study given a diagnosis from this category. The individual diagnoses within this group showed some between group differences with the most frequent diagnosis in the Severely Depressed group being Unsocialized Aggressive Reaction (29.4%) followed by Withdrawing Reaction (23.5%), and the Dysphoric Mood groups and SDI groups both had Overanxious Reaction as their most frequent diagnosis (35.1% and 66.7%, respectively). There were eight boys given the diagnosis of Depressive Neurosis (300.4) with three in the Severely Depressed group, two each in the Moderately Depressed and Dysphoric Mood groups and one in the Other group. The Not Depressed group's and the Other group's most frequent diagnosis was Adjustment Reaction of Childhood (307.1) with 40.9% and 50%, respectively.

The source of the report of the symptoms was examined for the sample as a whole. Parents were the primary source for a number of symptoms of dysphoric mood including unhappiness, moodiness, sensitivity, and cries easily. They also provided the most information regarding sleep disturbances and several aggressive behaviors including temper tantrums, difficult to get along with, quarrelsome, stealing, disobedient, and

excessive fighting. The problems of enuresis and encopresis were reported almost exclusively by parents. Clinical interviews were the primary source of information regarding hopelessness, helplessness, the child feeling useless, and having a poor self-image. The child's teacher was the person that more frequently found evidence of physical fatigue and reported destructive or hyperactive/restless behavior. The teachers were the source for information about decreased group participation and decreased school performance. The child being socially withdrawn or having a speech delay was noted most often by direct clinical observation. The child himself was the best source of information regarding the presence of nightmares.

The frequency with which individual symptoms were reported in the two Depressed groups combined was compared with their frequency in the Not Depressed group. Chi square analyses were done and eight symptoms (see Table 5) were found to be significantly different. The first five symptoms listed in the table belong to the dysphoric mood and self-deprecatory ideation symptom categories, so the criteria for forming the groups resulted in the Not Depressed group being without these symptoms. A second comparison of the frequencies of the individual symptoms was done using all six groups. All of the significant findings in the first analysis were replicated except for poor self-esteem which was seen almost as frequently in the Dysphoric Mood group as in the Depressed groups and decreased group participation was found in both the Dysphoric Mood and SDI groups but was not seen in the Not Depressed group. There were 10 additional symptoms that were found to be significantly different in these analyses. Abdominal pain and "other somatic complaints" were found most

TABLE 5  
 SYMPTOMS FOUND SIGNIFICANTLY MORE OFTEN IN DEPRESSED  
 THAN NONDEPRESSED SUBJECTS

<u>Symptom</u>	<u>Depressed</u>	<u>Not Depressed</u>	<u>Chi-square</u> <sup>a</sup>
	(N=39)	(N=22)	
	<u>%</u>	<u>%</u>	
sadness	35.9	0	10.24**
depressed	43.6	0	13.29***
cries easily	43.6	0	13.29***
rejected	33.3	0	9.32**
useless	23.1	0	5.96*
poor self-esteem	56.4	18.2	8.41**
sudden anger/angry	69.2	22.7	12.20***
decreased group participation	23.1	0	5.96*

<sup>a</sup> All tests had one degree of freedom.

\* $p < .025$

\*\* $p < .010$

\*\*\* $p < .001$

often in the SDI group while several school performance variables (poor concentration, short attention span, and easily frustrated) were seen most often in the Severely Depressed group (see Table 6).

There are some additional symptoms shown in Table 6 that were not found to be significantly different between groups, but are of interest. Anxiety was seen in over 40% of all but the Other group and sleep disturbances were reported relatively infrequently in all the groups. The symptom guilty was found only in the Depressed groups, and the increased degrees of freedom in this analysis made this a significant finding. Suicidal thoughts were seen in both Depressed groups and the Other group. The Severely Depressed group had a significantly higher incidence of destructive behavior (41%), in comparison to the other groups. The symptom of headaches was only reported in the Severely Depressed (14%) and SDI (17%) groups. Decreased group participation was seen more often in the Severely Depressed group than the other groups. The symptoms of enuresis and encopresis were not found to be clustered in any one group.

The symptom variables under the categories of dysphoric mood and self-deprecatory ideation and several other symptoms that had high frequencies were cross tabulated by age for each group separately to look for the presence of developmental trends. There were no significant developmental trends found for any of the symptom variables examined by group placement. One interesting nonsignificant trend was found. The symptom "angry/sudden anger" showed a developmental tendency with both Depression groups combined: 38% of the 6-7 year olds, 69% of the 8-9 year olds, and 87% of the 10-11 year olds displayed this symptom.

TABLE 6

## A COMPARISON OF THE FREQUENCY OF INDIVIDUAL SYMPTOMS

## WITHIN EACH GROUP

Group<sup>a</sup>

	<u>SDEP</u>	<u>MDEP</u>	<u>DYS</u>	<u>SDI</u>	<u>NDEP</u>	<u>OTHER</u>	<u><math>\chi^2</math></u>
N	22	17	37	6	22	6	
<u>Symptom</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	
sadness	50	18	32	0	0	50	19.44** <sup>b</sup>
unhappiness	18	24	22	0	0	50	11.31**
depression	46	41	51	0	0	67	22.93***
moodiness	14	18	16	0	0	50	11.59*
cries easily	46	41	19	0	0	33	18.14**
anxiety	59	41	46	50	50	0	6.95
initial insomnia	14	0	11	17	5	0	4.22
feeling rejected	41	24	0	33	0	17	25.17**
feeling useless	27	18	0	33	0	17	17.39**
feeling dumb	0	12	0	0	0	0	11.14*
feeling guilty	18	12	0	0	0	0	12.32*
suicidal thoughts	14	6	0	0	0	17	9.39
low self-esteem	55	59	46	17	18	33	10.53
physical fatigue	23	0	19	17	0	0	10.47
destructive	41	6	19	17	5	17	12.15*
hyperactive/restless	55	59	32	17	50	33	6.94
sudden anger/angry	68	71	51	17	50	33	15.03**
decreased group participation	32	12	14	17	0	0	10.69

<u>Symptom</u>	<u>SDEP</u>	<u>MDEP</u>	<u>DYS</u>	<u>SDI</u>	<u>NDEP</u>	<u>OTHER</u>	<u><math>\chi^2</math></u>
other somatic complaint	18	18	11	67	32	0	13.64*
poor concentration	73	29	54	50	36	0	15.20*
short attention span	64	35	19	50	41	0	16.19*
easily frustrated	50	24	14	0	0	0	23.40***

<sup>a</sup> SDEP - Severely Depressed, MDEP - Moderately Depressed, DYS - Dysphoric Mood, SDI - Self-Deprecatory Ideation, NDEP - Not Depressed groups, and Other - not abbreviated.

<sup>b</sup> All tests had five degrees of freedom.

\* $p < .05$

\*\* $p < .01$

\*\*\* $p < .001$

The type of treatment recommended for the entire sample of boys was reviewed (up to three types of treatment per child were recorded). The most frequent type of intervention was some form of parent counseling (marital therapy, individual therapy, or parent's counseling group) with 79% of the parents receiving this form of treatment. Individual therapy (45%) and group therapy (27%) were also frequently employed. Eighteen per cent of this age group were in a therapeutic day school that provides both educational and therapeutic experiences and an additional 13% were seen in an After School Program that has biweekly group sessions for the child and a weekly parent's group. Family therapy was utilized with 8% of the boys and chemotherapy was an adjunctive treatment in 5% of the cases. Parent counseling was uniformly high across all the groups, while individual therapy was highest (65%) in the Moderately Depressed group. The Not Depressed group had the highest percentage of boys in family therapy (23%) and the Severely Depressed (23%) and Dysphoric Mood (19%) groups had the most children in the Therapeutic Day School.



## DISCUSSION

The prevalence of childhood depression observed in this sample of 6-11 year old boys was found to be 35% with an additional 34% displaying the symptom of dysphoric mood accompanied by at least two other depressive symptoms. This frequency of childhood depression is higher than that reported by Ansell (1971a) in the studies she reviewed (1.8% to 25%).

The most directly comparable study was Brumback et al.'s (1977) who used the same criteria and the age of their population was nearly identical (they included 12 year olds) with the principle difference that they also included girls in their study. The prevalence of depression they observed in their sample was 63% with the males (71%) displaying more depression than the females (29%). The present study's finding of nearly half (35% vs. 71%) the prevalence of depression in boys in comparison to Brumback et al.'s (1977) study could be due to the differences in data collection techniques with Brumback et al. (1977) using interviews of mother and child to collect their data and this study relying on archival data collection. The direct assessment technique had the advantage of the investigators inquiring or examining for the presence of each of the symptoms, while the archival method was dependent upon the symptoms being noted and then recorded in the chart. The failure to directly inquire about certain symptoms probably lead to their frequently going undetected.

Petti (1978) found a higher prevalence of depression (59%) on an inpatient unit than was observed in the present study. The more restricted treatment environment he was in probably contained children experiencing more severe emotional problems than those in the present study. Edelbrock and Achenback (Note 3) used the same sex and age grouping as the present study and found 19% of the 798 boys seen in similar clinic settings had a Depressed, Social Withdrawal, and Aggressive profile on the CBCL.

While the study reported here did not find the prevalence of depression as great as that reported by Brumback et al. (1977) and Petti (1978) in other clinical populations, the presence of a syndrome of childhood depression in approximately a third of the 6-11 year old boys seen by a CMHC suggests that this disorder is not a rare problem.

The majority of the referrals to the clinic by outside mental health professions were for boys in the Severely Depressed group with two of the four referrals by psychiatrists being in this group. While this finding was not significant it is consistent with the finding reported by Pearce (1978) that 36% of the depressed children and adolescents in his study were referred by outside psychiatrists which was significantly more ( $p < .001$ ) referrals from this source than the non-depressed children and adolescents (12%) in his study had. Related findings in the present study were that the Severely Depressed group more frequently had previous therapy and their families also had more frequent therapy experiences, although both of these findings were not statistically significant. The findings that the Severely Depressed boys and their families had more therapy experience than the other groups may be

due to their problems being more chronic, their families having more problems, or the higher number of symptoms they displayed attracting more therapeutic interventions.

The finding in the present study that income was not related to depression is in contrast to Lefkowitz et al.'s (Note 2) observation that income had a significantly negative relationship for all three of their dependent measures of depression. Their study had a larger sample size, their computation of income was different (census tract information vs. family income), and their ratings of depression provided for placement of their subjects on a continuum of depression in contrast to this study's dividing the subjects in a more categorical fashion. These differences between the two studies could possibly account for the differences in findings, however the very even distribution of the depressed subjects across the five income levels in the present study suggests that the inverse relationship between income and depression proposed by Lefkowitz et al. (Note 2) was not supported by the findings reported here.

The age of the boys in this study was fairly evenly distributed with the Depressed groups approximately a half-year older than the Not Depressed group. Pearce (1978) found a significant age difference between his depressed (12.6) and his nondepressed (10.3) groups, although his finding reflected the greater frequency of depression he found in postpubertal children (58%) compared to prepubertal children (37%). The study presented here was limited to a prepubertal population and did not show a significant age difference between the depressed and nondepressed groups.

All six of the boys with premature birth histories were in the Not Depressed group. Several of these boys had related developmental difficulties with one boy diagnosed as Minimal Brain Dysfunction with a marked delay in fine motor skill, a second boy had heart defects that occasionally led to tachycardia, a third boy was diagnosed as nonpsychotic Organic Brain Syndrome with neurological sequelae, and a fourth boy attended a resource class because of his visual impairment. The placement of these boys in the Not Depressed group suggests that while children experiencing prenatal and postnatal complications may develop anxiety and behavioral problems they are not prone to depression.

The six boys in the SDI group displayed the symptoms of abdominal pain (two cases) and other somatic complaints (4 cases) significantly more often than the other groups (Table 6). A closer examination of the six cases with "other somatic complaint" revealed that two of the boys had asthma and allergies, one had asthma and SC Hemoglobin Disease, and the fourth had complaints of double vision. The three asthmatic children gave evidence of feeling rejected, stupid, and inadequate. Half of the children in the SDI group had asthma and it is interesting to note that like the boys with developmental difficulties they did not display a dysphoric affect, but they did give evidence of having introjected negative feelings about themselves. A possible difference between these groups is that the children with developmental problems have always had these difficulties, while asthma usually has a somewhat later onset and often a variable course with periods of time during which the child may be relatively symptom free. The "loss of a higher level of functioning"

may account for the asthmatic child feeling that his performance is not up to his own expectations, and his subsequent expression of self-dissatisfaction.

The finding that the Severely Depressed group had a higher percentage of parents that were still married and coming from larger families than the other groups is difficult to interpret. The Severely Depressed children's birth order position if it were available might help clarify these observations. The availability of parental figures to nurture the child was frequently mentioned in the literature as being of etiological importance in developing childhood depression. Increased family size would reduce the parental attention available to any one child in the family and might make children in these families more susceptible to depression. Frequently the older siblings in larger families take on some of the parenting tasks, so if these adaptations were absent in these large families it might explain the finding of severe depression in children from larger families. Another possibility is that if the depressed child was frequently the oldest in a large family, he may be overwhelmed by the responsibility this entails and exhibit a depressive reaction.

The source of reports of symptoms showed that certain symptoms were observed more frequently by different individuals in the child's life. This finding is consistent with the observation by Kendall et al. (Note 1) that there was a lack of consistency in behavior between school and home in the depressed children they studied. Achenbach (1978b) has also noted that various sources often disagree in reporting on children's behavior and he suggests that when sources disagree the findings may be

situation specific. The recommendation of the Subcommittee on Assessment at the NIMH Childhood Depression Conference was that assessment in this area should be multifaceted with ratings done by several sources (Kovacs, 1977a). The findings reported here support the need for that approach.

An examination of the DSM-II diagnoses given to the boys revealed that the most frequently used category that was not specifically designated for children was Depressive Neurosis. The relationship between this term and Brumback et al.'s (1977) criteria used to classify the groups in this study was demonstrated by 62.5% (5 cases) of the boys receiving the Depressive Neurosis diagnosis also being found to fulfill the criteria of childhood depression established by Brumback et al. (1977), with an additional 25% (2 cases) in the Dysphoric Mood group and none of the boys in the Not Depressed group receiving the Depressive Neurosis diagnosis. The fact that only 12.8% of the boys fulfilling Brumback et al.'s criteria for childhood depression received the diagnosis of Depressive Neurosis raises the question of whether this disorder is being under detected, if there is a reluctance by clinician's to label children "neurotic", or if some of the children with childhood depression were experiencing it secondarily to some other disorder. An interesting finding was that 31.8% of the boys in the Severely Depressed group were classified as Unsocialized Aggressive Reaction in contrast to 5.9% of the Moderately Depressed group who received this diagnosis. This suggests that the Severely Depressed group which has a higher number of symptoms present may display more behavioral problems than the Moderately Depressed group.

The frequency with which individual symptoms were observed in depressed children in this study was found to generally be lower than the frequency with which these symptoms were reported by Brumback et al. (1977) in the depressed children they examined especially for vegetative symptoms (see Table 7). The clinical staff of the Northwest Center is primarily composed of clinical psychologists and psychiatric social workers and it was noted during data collection that the same clinicians routinely reported the presence or absence of sleep disturbances in their reports while others only occasionally noted their presence. This difference may be due to differences in training with those clinicians who were trained in medical settings more sensitive to physical symptoms.

The frequency with which a depressive affect was observed in the present study with the Depressed groups combined (43.6%) was higher than what Frommer (1968) found in her depressed subjects (21.6%). In contrast, weepiness was seen more often by Brumback (1977), Frommer (1967), and Connell (1972) in their subjects than it was found in the present study (76% to 55% vs. 44%).

The symptom of anxiety was reported by Frommer (1968) as being present in 44% of her subjects and by Connell (1972) as present in 75% of hers. The current study found anxiety in 51% of the Depressed subjects and 50% of the Not Depressed subjects. The symptoms of hyperactivity or restlessness were reported in 50% of Brumback et al.'s (1977) and in 55% of Frommer's (1967) depressed subjects. A similar finding was observed here with 51% of the Depressed subjects and 50% of the Not Depressed subjects showing these behaviors. Werry and Quay (1971) reported restlessness in 50% of the boys they studied and LaPouse

TABLE 7

A COMPARISON OF THE FREQUENCY OF SYMPTOMS ASSOCIATED WITH CHILDHOOD  
DEPRESSION REPORTED IN TWO SAMPLES OF DEPRESSED CHILDREN

	<u>Brumback et. al. (1977)</u>	<u>Kerman (1980)</u>
N	42	39
<u>Symptom</u>	<u>%</u>	<u>%</u>
mood swings	80.9	15.4
irritable	78.6	0
weepiness	76.2	43.6
worthless/inadequate	95.2	23.1
suicidal thoughts	11.9	10.3
difficult to get along with	59.5	17.9
temper tantrums	38.1	35.9
disrespectful of authority	54.8	25.6
quarrelsome	59.5	15.4
stealing	9.5	17.9
hyperactive/restless	47.6	56.0
excessive fighting	50.0	48.7
initial insomnia	59.5	7.7
restless sleep	26.2	2.6
difficulty waking	16.7	2.6
poor concentration	47.6	53.8
poor work effort in school	45.2	33.3
decreased group participation	61.9	23.1
socially withdrawing	59.5	28.2



	<u>Brumback et. al. (1977)</u>	<u>Kerman (1980)</u>
<u>Symptom</u>	<u>%</u>	<u>%</u>
headaches	42.9	7.7
abdominal pain	35.7	2.6
enuresis	38.1	20.5
encopresis	4.8	2.6
anorexia or polyphagia	38.1	0

and Monk (1958) in 39% of their subjects with both studies using general samples of school age children. The finding of anxiety present as frequently in nondepressed children as depressed children in the current study suggests that it may be symptomatic of general psychopathology rather than of pathomononic importance in childhood depression. The prevalence of restlessness appears to be fairly consistent across populations of depressed and nondepressed boys seen in clinic settings and boys in public schools. This observation shows the importance of base rates in evaluating the significance of individual symptoms and indicates that for boys the observation of "restless" by itself is of limited value.

The present study found the boys in the Depressed groups significantly more often displaying the symptom sad than the boys in the Not Depressed group. While this finding is not surprising since sad was one of the symptoms in the dysphoric mood category that helped classify the groups, the prevalence of the symptom sad in the depressed group was 36% in comparison to this symptom being observed in only 7.2% of Werry and Quay's (1971) general sample of boys. The observed difference in the prevalence rates of the symptom sad in the depressed boys in this study and Werry and Quay's (1971) population suggests that the symptom sad may help differentiate depressed boys from the general population. The symptom of low or poor self-esteem was not included in the criteria for determining the severity groups in this study and was found to be present significantly more often in the Depressed groups combined (56%) than in the Not Depressed group (18%). The presence of self-deprecatory ideation symptoms in the Depressed group cannot entirely account for this finding since the Dysphoric Mood group also had a high frequency of low

self-esteem (45.9%), but like the Not Depressed group they did not have any of the self-deprecatory ideation symptoms. While children saying bad things about themselves undoubtedly influence observers to evaluate them as having low self-esteem, this evaluation may also include other characteristics.

The symptom of decreased group participation was also seen in this study significantly more often with the Depressed groups combined (23%) than in the Not Depressed group (0%). Connell (1972) and Brumback et al. (1977) also found decreased socialization among their depressed subjects which supports the use of this symptom as one of the criteria in evaluating childhood depression.

Suicidal thoughts and threats were found present in the Severely Depressed, Moderately Depressed, and Other groups. There was one suicide attempt in both the Moderately Depressed and Other groups. The prevalence of suicidal thoughts in the Depressed groups combined was 10% which was close to the 12% observed by Brumback et al. (1977) and smaller than the 45% reported by Connell (1972) and the 31% found by Pearce (1978). The finding that four of the five boys observed to have suicidal thoughts in this study were found in one of the Depressed groups is consistent with the hypothesis that suicidal behavior and childhood depression are related as noted by McIntyre and Angle (1973) and Paulson et al. (1978).

The symptom of "sudden anger" was expanded to include "angry" when this description was found frequently in the charts. The comparison of the Depressed groups combined (69.2%) with the Not Depressed group (22.7%) showed that this difference was highly significant ( $p < .001$ ). Brumback et al. (1977) used the symptoms "excessive fighting

and sudden anger" together and found them in 50% of their depressed subjects and only 10% of their nondepressed subjects. The meaning and function of anger has received some attention with Lesse (1974) observing anger frequently in people with masked depression and proposing that it could be protecting the individual from the painful feelings the depression engenders. Toolan (1978) also describes anger as a defense used by children to ward off depressive feeling and finds it is frequently directed towards person(s) the child believes deserted him. The findings of anger as the symptom with the highest prevalence among the depressed children in the present study suggests that is an important element in the syndrome of childhood depression. The picture of the depressed adult who displays a persistent sad affect and marked psychomotor retardation is rarely replicated in childhood. A child's moods are generally more unstable than adults (Bakwin, 1972), so it is possible that depressed children may alternate sad and angry affects quite often. A study of the mood states in depressed children in a residential facility where continued observation is possible could test this hypothesis.

The symptoms of poor concentration, short attention span, and easily frustrated were all found significantly more often in the Severely Depressed group than in the remaining five groups used in this study. The finding that these symptoms were present more often in the Severely Depressed group than the Moderately Depressed group indicated that more severely depressed children may experience some deficits in cognitive functioning. The findings by Ossofsky (1974) that depressed children with Performance IQs lower than Verbal IQs on the WISC showed the best

response to chemotherapy and that WISC scores improved following remission of depressive symptoms supports this hypothesis.

The developmental trends reported by McConville et al. (1973) and Ushakov and Girich (1971) with depressive affect seen in younger children (ages 5-8) and self-deprecatory ideation in older children (7-10) were not found in this study. It is interesting that the symptom of angry/sudden anger instead showed a definite, but not significant developmental trend of increasing frequency with increasing age with the Depressed groups combined. The self-deprecatory ideation could be characterized as anger directed inwards, while the anger reported in this study was directed towards external objects. A possible explanation of these divergent findings is that older children have better defenses than younger ones and are able to mobilize their anger more effectively to ward off sad feelings; however, the recipient (self or others) may vary.

The type of treatment received by the children in the Depressed groups did not differ markedly from that received by the other groups. The overall treatment model employed by the Northwest Center working with boys in the 6-11 year age range seems to stress parents involved in some form of treatment with the boy usually seen in group or individual therapy. This is consistent with the psychotherapy model recommended for treating depression that was derived from the literature in the Treatment section of this paper. The Moderately and Severely Depressed groups differed slightly in the treatment they were receiving with the Moderately Depressed group having more boys in individual therapy (65% vs. 41%) and the Severely Depressed group seen more frequently in the

Therapeutic Day School (23% vs. 12%) and the After School Program (14% vs. 6%). Instead of the more severely depressed children receiving individual therapy more frequently than the less depressed children as advocated by Frommer (1968) and McKnew and Cytryn (Note 5), the Northwest Center appears to employ more intensive treatment programs with this groups of boys.

## STUDY 2

### METHOD

#### Subjects

There were 20 subjects who were used to test the Boy's Attribution Scale (BAS) including 11 adults and 9 children. The adults ranged in age from 26 to 59 with a mean age of 40.2 years (36% males and 64% females) and the children ranged in age from 6 to 11 with a mean age of 7.9 years (89% males and 11% females). The adults were relatives and coworkers of the experimenter, while most of the children were relatives and offspring of friends of the experimenter and one child was from the Northwest Center case load who was in the Dysphoric Mood group in Experiment 1.

#### Apparatus

The pilot BAS was designed to portray events that would be relevant to 6-11 year old boys. Each event was designed to maximize or minimize the positive qualities of the event for the child and the extent to which the child could influence the event's outcome. All the events were written in the second person to increase the subjects identification with the event. This 2 x 2 design created four types of events: positive controlled, positive uncontrolled, negative controlled, and negative uncontrolled. There were 12 items for each of these categories written for the pilot study. There were two possible attributions written to explain each event with one positing a reason related to the individual

(internal) and the alternate a reason due to external causes. These two choices were randomly distributed between the first and second response positions following the stories. A few sample items are presented below:

1. The ice cream man gave you a free ice cream cone. This was because:
  - a) he likes your smile or
  - b) he had some extra cones.
2. You were riding your bicycle and the tire went flat. This was because:
  - a) you're an unlucky person or
  - b) they were cheap tires.
3. You were walking down the street and found a \$20 bill. This happened because:
  - a) someone else lost the \$20 bill or
  - b) you are always looking for things to find.

A five point scale to assess the positive and negative quality of the events (Good) was constructed and a four point scale was created to assess the subjects perception of how much influence he/she could exert over the event (Control).

#### Procedure

The subjects were given the following instructions: "I would like to read you some make believe stories. I want you to pretend that they are happening to you. Following each story are two reasons why it happened the way it did. I want you to tell me which reason explains the story best for you." Adults were given the additional instructions, "the stories are written for boys, so I would like you to also imagine you are an eight year old boy and look at the stories from that perspective."

The adult subjects were allowed to read the stories and circle the response alternatives, while the child subjects were read the



stories by the experimenter who recorded their responses. After this task was completed the subjects were told,

Now that you have finished all 48 stories, I would like to go over them one more time. This time I want you to just look at the story part, not the explanations, and rate under Good on the code sheet how good or bad event each event would be if it happened to you using the scale on the next page. I would also like you to rate each story for Control using the four point scale on the next page that describes whether or not you could have influenced the way the event happened.

The experimenter then gave the subject a sheet for his/her reference with the following instructions:

If this happened to you it would be: 5) very good; 4) good; 3) fair; 2) bad; and 1) very bad. How likely is it that you could have made this event happen or happen differently? The alternatives are: 1) nothing I could have done about it; 2) I could have done a little about it; 3) I could have done alot about it; and 4) it was totally up to me.

The experimenter then read the story and the subject rated the Good and Control variables.

There was one subject, a 6 year old boy, whose responses were not used because it became apparent during the presentation of questions that he did not comprehend the task. He showed a response bias by almost always selecting the second alternative during the attribution part of the experiment. A second subject, a 7 year old boy, was not given the Control ratings for the stories. This was done to reduce the length of the task for this child, since he had a hearing impairment that lengthened the administration time.

The scores on the Good and Control variables were tabulated and both child and adult subjects' ratings were combined, since they were very consistent. The mean values for each item on the Control and Good

variables were determined and the best 7 of 12 items for each group were selected by taking items that would produce the best fit for each group (i.e. the positive controlled group had items selected with the highest values on both the Good and Control ratings). A series of eight t-tests were then performed using the mean values for each item in the groups to test hypotheses one through four.

The subject's scores (Internal = 0 and External = 1) for the groups positive uncontrolled and negative controlled were tabulated and a t-test of the difference of each individual's scores between the values obtained for these two groups was performed to test hypothesis five that subjects give internal attributions significantly more often to negative controlled events than to positive uncontrolled events.

## RESULTS

The seven items selected for the positive control group had a range of scores on the Good variable from 4.42 to 4.94 with a mean of 4.68 (4=good and 5=very good) and Control scores from 3.39 to 3.83 with a mean of 3.55 (3=alot of influence and 4=totally up to the individual). The positive uncontrolled group had scores on the Good variable from 4.47 to 4.84 with a mean of 4.68, and Control scores of 1.11 to 1.89 with a mean of 1.58 (1=nothing I could do and 2=a little influence). The negative controlled group had scores on the positive variable of 1.42 to 1.79 with a mean of 1.59 (1=very bad and 2=bad) and Control variable scores of 3.00 to 3.50 with a mean of 3.23. The negative uncontrolled group had Good variable scores of 1.32 to 1.84 with a mean of 1.70 and Control scores of 1.11 to 2.11 with a mean of 1.60.

The results of the t-tests performed to test hypotheses one through four are displayed in Table 8. The first hypothesis was supported with highly significant differences observed between the positive and negative groups on the Good variable with Control held constant. The second hypothesis was also supported with significant differences found between the controlled and uncontrolled groups with the variable Good held constant. The third hypothesis that the two positive groups would not be significantly different from each other on ratings of Good and the two negative groups would show a similar relationship was supported by the

TABLE 8

## AN EVALUATION OF THE CONTENT VALIDITY OF THE BAS SUBSCALES

<u>Group</u>	<u>Variable Good</u>		<u>Variable Control</u>	
	<u>t</u>	<u>df</u>	<u>t</u>	<u>df</u>
Positive vs. Negative				
Controlled Groups	32.19**	12	3.43*	12
Uncontrolled Groups	34.57**	12	-.09	12
Controlled vs. Uncontrolled				
Positive Groups	0.42	12	14.74**	12
Negative Groups	-1.25	12	8.63**	12

\* $p < .01$ .\*\* $p < .001$ .

results. The fourth hypothesis that the two controlled and the two uncontrolled groups would not be significantly different from each other on ratings of Control had mixed results. The two uncontrolled groups were found to be very similar on ratings of Control with no significant difference found, in contrast the two control groups were found to have a small but significant difference on the variable Control with the positive control group containing events that were more controllable than the negative control group.

The fifth hypothesis was tested to see if the subjects gave internal attributions to negative controlled events and external attributions to positive uncontrolled events. The differences between the internal-external scores for the two groups were analyzed and it was found that they were significant ( $t(18)=8.66$ ,  $p < .001$ ).

## DISCUSSION

A Boy's Attribution Scale was constructed and tested on 11 adults and 9 child subjects to assess its ease of administration and the content validity of two of its principle constructs, value of the event to the individual and the individual's perception of how much he/she could influence the event. The scale was modified by eliminating items whose average content validity on these two variables was low as measured by the subjects ratings of these variables. An example of such an item was, "Your school was closed today because of bad weather." The children rated that as Very Bad to Very Good while the adults rated it Fair to Very Good. The personal meaning of some items is thus shown to vary while other items such as, "You studied hard for a math test and got an A," had near unanimous agreement (received 18 ratings of Very Good and 1 score of Good).

The four groups that were obtained using the subject rating of the Good and Control variables were: positive controlled, positive uncontrolled, negative controlled, and negative uncontrolled. The groups thus obtained were found to be significantly different on the Good and Control variables. The placement of items in the groups and testing of the group differences did not use independent samples which detracts from the importance of the findings. However, the tests do show that the planned group placement was successful in creating significant between

group differences. The finding that the controlled positive and controlled negative groups were significantly different on the variable Control may be due to the pool of items that were available for each of these groups being different or it may reflect the tendency of the subjects to assume total responsibility for positive events that they could influence, but assume a strong but more limited influence over negative events that they had control over.

The fifth hypothesis tested to see if the subjects made more internal attributions to negative controlled events than positive uncontrolled events. This hypothesis was supported and thus helps demonstrate the validity of the BAS and the prediction that subjects irrespective of the presence or absence of depression will respond in this manner, although the latter supposition was not directly assessed.

An interesting observation on the difference between the child and adult responses to rating the Good variable was that children rarely employed the intermediate ratings of good, fair, and bad in contrast to the adults who used them extensively. Instead of using the intermediate ratings to show the value of an event, the children would extrapolate the scale and say an item was, "very very very very good" or "very very very bad." This finding would suggest that a dichotomous choice is easier for a child than a multiple one and support the use of a forced-choice format for making attributions that was employed with the BAS. Children also had less difficulty than adults adapting to the task of role playing the events "as if" they were happening to them. The

child might verbalize the personal meaning of an item, but the "pretend" instruction seemed sufficient to allow an only child to easily respond to items that included imaginary siblings.



## SUMMARY

This study found that 35% of the 6-11 year old boys attending a CMHC fulfilled the criteria for a diagnosis of childhood depression. There were several individual symptoms including anger, sadness, low self-esteem, feeling rejected and useless, and decreased group participation that were found significantly more often in the depressed boys than the nondepressed boys. In contrast to a previous report, there was no significant relationship found between family income and the presence of depression. A group of severely depressed boys was observed to come from significantly larger families than the less depressed boys. This severely depressed group also had significantly greater impairment of their ability to attend to school tasks than was shown by the other groups.

The development of the Boy's Attribution Scale was described. This instrument was developed to test hypotheses based on Beck's and Seligman's theories of depression. The content validity of the subscales was assessed using ratings made by 11 adults and 8 children. The results supported the hypothesis that the subscales contained items describing events that were different on the dimension of the subject's perception of how positive an event was and how much he/she could influence its outcome. The hypothesis that a general sample of people would make

internal attributions to negative controlled events and external attributions to positive uncontrolled events was also supported.

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**APPENDIX A**

APPENDIX A

Research I.D. Number  
Age  
Sex (Male=1, Female=2)  
Date of Birth  
Age at intake  
Source of referral (parent=1; school=2; outside psychiatrist=3;  
outside m.h. tx=4; outside gen. physician=5; other=6)  
Identified patient (only one=1; one of several=2; not IP=3)  
Number of family members  
Family Income (i.e. 24.5 K)  
Source of income (father=1; mother=2; both=3; medicaid=4;  
S.S.=5; other=6)  
Number of siblings living in home (8 or more=8)  
Marital status of parents (married=1; divorced=2; widowed=3;  
separated=4; never-married=5; remarried=6; other=7)  
Seen by Emergency Serv. (No=1; primarily for this child=2; AFM=3)  
Grade (k=8)  
Race (White=1; Black=2; Hispanic=3; Asian=4; Amer.Indian=5; other=6)  
Religion (Protestant=1; . Methodist=2; Baptist=3; Jewish=4; Episcopalian=  
5; Catholic=6; Mormon=7; other=8)  
Child's previous tx (none=1; outpt. here=2; outpt. elsewhere=3;  
residential=4; E.D. class=5; parent counseling only=6; inpt.=7; other=  
8)  
Number of moves (8 or above=8)  
Birth difficulties (none=1; high forceps=2; low forceps=3;  
cesarian=4; premature=5; other=6)  
Length of labor (hrs)  
Talk (mos.)  
Walk (mos.)  
Complete toilet training (mos.)  
Type of tx. recommended (play tx-indiv.-1; group=2; family=3; parent  
counseling=4; chemotx.=5; E.D. class=6; after school program=7; other=  
8)  
AFM have previous tx (none=1; father=2; mother=3; sibling=4; other=5;  
both parents=6)  
DSM-II Dx.  
With Depressive Features (no=1; yes=2)  
Length of time of presenting problem (mos.)  
Learning disability (no=1; suspected=2; resource class=3; self-contained=  
4; dx. other tx=5)

- I. Dysphoric Mood (feelings of)
  1. sadness
  2. loneliness
  3. unhappiness
  4. hopelessness
  5. depressed
  6. helplessness
  7. despair
  8. failure
  9. discontent
  10. mood swings (moodiness)
  11. irritability (easily annoyed)
  12. hypersensitivity
  13. cries easily
  14. flat affect
  15. apathetic
  16. hardly ever smiles
  17. anxiety
  18. other (specify)
  
- II. Self-deprecatory ideation
  1. rejected
  2. useless
  3. dumb
  4. stupid
  5. unloved
  6. guilty
  7. beliefs of persecution
  8. fear of death for self
  9. fear of death for parent(s)
  10. desire to run away
  11. suicidal thoughts
  12. suicidal threats
  13. suicidal attempts
  14. obsessions
  15. low self-esteem/poor self-esteem
  16. altered perception
  17. other (specify)
  
- III. Aggressive Behavior
  1. agitation
  2. temper tantrums
  3. difficult to get along with
  4. aggressive
  5. quarrelsome
  6. destructive
  7. disrespectful of authority
  8. stealing
  9. belligerent/disobedient
  10. hostile
  11. negative

13. excessive fighting
14. sudden angry/angry
15. other (specify)

IV. Sleep Disturbance

1. initial insomnia
2. restless sleep (middle insomnia)
3. early waking (terminal insomnia)
4. difficulty waking in morning
5. nightmares
6. sleep walking
7. nocturnal enuresis
8. other sleep disturbance (specify)

V. Change in School Performance

(frequent complaints from teacher of 1-3)

1. daydreaming
2. poor concentration
3. poor memory
4. indecisiveness
5. loss of usual work effort in school subjects
6. loss of usual interest in nonacademic school activities
7. short attention span
8. easily frustrated
9. other (specify)

VI. Diminished Socialization

1. decreased group participation
2. less friendly
3. less outgoing
4. socially withdrawing
5. loss of usual social interests
6. poor social judgement
7. immature
8. phobias (specify)
9. usually plays alone
10. has no real friends
11. other (specify)

VII. Change in Attitude Towards School

1. does not enjoy school activities
2. does not want to go to school
3. refuses to attend school
4. school phobia
5. other (specify)

VIII. Somatic Complaints

1. headaches - non-migraine
2. headaches - migraine
3. abdominal pain
4. muscle aches or pains
5. hypochondriasis
6. clumsiness

7. speech delay
8. allergies
9. enuresis (current)
10. enuresis (past)
11. encopresis
12. nausea
13. vomiting
14. other (specify)

IX. Loss of Usual Energy

1. loss of usual personal interests
2. loss of usual personal pursuits
3. passivity
4. psychomotor retardation
5. physical fatigue
6. mental fatigue
7. other (specify)

X. Change in Appetite/Weights

1. excess appetite
2. little or no appetitie
3. food fads
4. unusual weight loss (anorexia)
5. unusual weight gain (polyphagia)
6. other (specify)

Symptom Codes:

Observed by clinician	- - - - -	1
Reported by parent	- - - - -	2
Reported by teacher	- - - - -	3
Reported by other		
school personnel	- - - - -	4
Inference by clinician	- - - - -	5
Reported by physician	- - - - -	6
Other (specify)	- - - - -	7
Self-report	- - - - -	8
Unknown	- - - - -	9



APPROVAL SHEET

This thesis submitted by Fred M. Kerman has been read and approved by the following committee:

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The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree Master of Arts.

12/11/80  
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