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## Personal Helplessness Among Depressed Boys: Partial Resolution of the Paradox of Uncontrollability and Self-Blame

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PERSONAL HELPLESSNESS AMONG DEPRESSED BOYS:  
A PARTIAL RESOLUTION OF THE PARADOX OF  
UNCONTROLLABILITY AND SELF-BLAME

by

Fred M. Kerman

A Dissertation Submitted to the Faculty of the Graduate School  
of Loyola University of Chicago in Partial Fulfillment  
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March

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PERSONAL HELPLESSNESS AMONG DEPRESSED BOYS:

A PARTIAL RESOLUTION OF THE PARADOX OF

UNCONTROLLABILITY AND SELF-BLAME

The applicability of the cognitive and learned helplessness models of depression to prepubertal boys was investigated. The subjects for this study were 45 boys 6-11 years of age and their mothers. Two-thirds of the sample were or had been receiving outpatient treatment for emotional problems, and one-third were nonpatients.

The Child Depression Inventory (CDI) was utilized to divide the sample into groups based on the severity of their depression. The concurrent validity of this instrument was supported with the finding of a significant positive correlation with a rating of depression based on Thematic Apperception Test responses. The CDI was also found to have an acceptable internal consistency.

The mothers' self-ratings of depression were observed to be significantly correlated with three measures of their son's depression, and boys who were the oldest were found to display more depression than boys in other birth order positions. These findings were discussed in relation to different theories of the etiology of childhood depression.

The depressed boys in this study were observed to make internal attributions to negative uncontrollable events. This finding supports the existence of a paradox of self-blame and helplessness in a child clinical population. A partial explanation of this paradox is offered

by the hypothesis that depressives view events as controllable, but personally lack the ability to influence them (personal helplessness). Depressed boys in this study perceived themselves as personally helpless when faced with negative tasks which supports this hypothesis. These findings were interpreted as generally consistent with the cognitive and learned helplessness models of depression.

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The cooperation of the Northwest Center for Community Mental Health in Reston, Virginia made this project possible and the support of Dr. Alan Shor, Center Director, and Mr. Kurt Campbell-Mueller, Director of the Evaluation Service, were instrumental in getting it started. Dr. Rosemary Burns, Director of the Youth and Family Service, supervised the data collection and with her child clinical expertise provided useful suggestions on all aspects of the study. The clinical staff of the Youth and Family Service lent invaluable assistance in identifying and obtaining subjects. The Reverend Doug Reens also assisted in locating nonpatient subjects and the Washington Plaza Baptist Church in Reston, Virginia provided the use of their offices for interviewing.

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## VITA

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He has coauthored one publication:

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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 (Campbell, 1955; Cytryn & McKnew, 1974; Toolan, 1974a). 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; Riddle & Rapoport, 1976).

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" (Lefkowitz & Burton, 1978), "discussion" (Brandes, 1971), "explanation" (Brumback & Weinberg, 1977a) and "perspective" (Malmquist, 1971a, 1971b) providing a theoretical framework. The research teams of Cytryn and McKnew in Washington, D.C. and Weinberg and Brumback in St. Louis have conducted 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, 1979; McKnew, Cytryn, Efron, Gershon & Bunney, 1979; McKnew, Cytryn & White, 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 (Achenbach, 1978a, 1979; Achenbach & Edelbrock, 1978, 1979; Arnold & Smeltzer, 1974; Wirt, Lachar, Klinedinst, & Seat, 1977) and the revised Comprehensive Textbook of Psychiatry/II has a section under "Child

Psychiatry: Neurotic Disorders" on depression (Anthony, 1975). The most recent edition of this widely used textbook has a chapter under "Child Psychiatry: Special Areas of Interest" entitled "Affective Disorders" (Cytryn & McKnew, 1980). 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 contains 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, 1971a). The second, Depression in Childhood: Diagnosis, Treatment and Conceptual Models, contains 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, contains 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. 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, 1977).

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) 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!" (p. 243). 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, 1977a). The issue of etiology is reflected in the endogenous-exogenous schema (Costello, Christensen, and Rogers, 1974), while severity of the disorder is dichotomized into a neurotic versus psychotic distinction. Kendell (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 (American Psychiatric Association, 1968) 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 (1977, 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, 1977).

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 a 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, 1952b). 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 pleasurable 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, 1977b).

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, 1977; 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, Dietz-Schmidt, & Weinberg, 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 for at least a month are included for diagnosing the syndrome of childhood depression. The schema of Spitzer et al. (1977) was utilized in developing the classification of mood disorders in the new Diagnostic and Statistical Manual-III (American Psychiatric Association, 1980). 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 1), the

TABLE 1

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

<u>Childhood Depression</u>	<u>Adult Depression</u>
A. Presence of both symptoms I and II and two or more of the remaining eight symptoms (III-X)	A. Presence of symptom 1 and at least four of the next eight symptoms (2-9)
I. Dysphoric mood (melancholy)	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>
II. Self-deprecatory ideation	2. Sleep difficulty or sleeping too much (IV)
III. Aggressive behavior (agitation)	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)
IV. Sleep disturbance	4. Loss of energy, fatigability, or tiredness (IX)
V. Change in school performance	5. Psychomotor agitation (III) or retardation (IX)
VI. Diminished socialization	6. Loss of interest or pleasure in usual activities (VI,VII) or decrease in sexual drive
VII. Change in attitude towards school	7. Feeling of self-reproach or excessive or inappropriate guilt (II)
VIII. Somatic complaints	8. Complaints or evidence of diminished ability to think or concentrate such as slow thinking, or indecisiveness (V)
IX. Loss of usual energy	9. Recurrent thoughts of death or suicide, including thoughts of wishing to be dead (II)
X. Unusual change in appetite and/or weight	10. (Crying) <sup>c</sup> (I)
	11. (Pessimistic attitude) (I)



Childhood DepressionAdult Depression

12. (Brooding about past or current unpleasant events)  
(I)
13. (Pre-occupation with feelings of inadequacy)  
(II)
- B. Each symptom must be a discrete change in usual behavior and must be present for more than one month
- 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, and Weinberg (1977), Spitzer, Endicott, Woodruff, and Andreasen (1977), and Weinberg, Rutman, Sullivan, Penick, and 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, Endicott, Woodruff, and Andreasen (1977).

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, Dietz-Schmidt and Weinberg (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, Oftedal, and Weinberg (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 per- formance 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 (1973) 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, 1973).

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, Flanagan, Spellman, & Cohen (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% under 13 years of age. 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 most often 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 et al.'s (1973) 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 et al.'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, Dietz-Schmidt, & Weinberg'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" (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 observed 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.

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, and Weinberg (1977); Frommer (1968); Connell (1972); Ossofsky (1974); Pearce (1977,1978); and Albert and Beck (1975).

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

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 transitional play-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 (1968) included children with a "depressive illness", Ossofsky (1968) 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 there were 20 subjects, 50% boys and 50% 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 (1972) 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 (1972) 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 (1972) 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 (1978) 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 in the contrast group 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).

MacAuslan (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 second 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 second 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 reexamined tended to be slightly younger and to have more symptoms than those reexamined, 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 intergroup 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 2 x 2 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" (MacAuslan, 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 & McKnew, 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 Purhoit (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, 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 Purhoit'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 Equivalents" (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, 1971b, 1972, 1977a, 1977b) has written extensively on the topic of childhood depression. His classification system of childhood depressions contains the greatest number of categories. His system combined several criteria including descriptive features, age, and etiology in deriving 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 are placed with Malmquist listing these problems as occurring during latency and Stack placing them in the preschool period.

The study that gives the most detailed description of the symptoms and associated features found with each childhood depressive subtype it 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.

Arajarvi and Huttunen (1971) reported 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 (1978a) 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 boy's and girl's 6-11 year old groups (Achenbach, 1978a; 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 1) 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 et al. (1973). Edelbrock and Achenbach (Note 1) 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 girls 6-11 years of age was also evaluated, and 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) employed three categories in classifying childhood depression which included 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 were both seen as having the depressive syndrome of a persistent sad affect, social withdrawal, anxiety, sleep and feeding disturbances, decreased school performance, and suicidal ideas and threats but only rarely attempts. The acute and chronic groups were differentiated by the associated features of premorbid history, family background, and etiology. The acute group had 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 premorbid 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 Purhoit (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, 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 and McKnew criteria were reexamined 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 et al., 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 (1978) applied the Research Diagnostic Criteria (RDC) of Affective Disorders developed for use with adults by Feighner, Robins, Guze, Woodruff, Winokur, and Munzo (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 and Burton (1978) critiqued the concept of childhood depression from an epidemiological viewpoint. They 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 pathonomic.

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; Poznanski, Krahenbuhl, & Zrull, 1976).

Herjanic, 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 et al.'s (1973) criteria for depression with children under 15, and Feighner et al.'s (1972) 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?

Poznanski et al. (1976) attempted a follow-up of Poznanski and Zrull's (1971) study of childhood depression. They were only able to locate 6 of the 14 children from that report for reexamination, so they added four 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 (Poznanski and Zrull, 1971) 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 (Poznanski 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. Anell (1971b) 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 in-patient unit to be depressed. Unfortunately, he did not furnish much demographic data on his subjects. Brumback 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 (1971b) 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, 1974b, 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, Shrier, Stone, and Tobin (1975) studied 70 children (5-12 years of age) half of whom had school phobias, <sup>Waldron</sup> 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 and Klein (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 and Klein (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 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 of 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 (1974a) 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 reacted 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, Barta, 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.

Chakraborty, 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 (McAnarney, 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 was 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 & 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 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 (1969) 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 (1964) reported on 83 children who had lost a parent, were treated by a psychiatric unit in Ann Arbor and who ranged in age from 4 to 17 years (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 researchers 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 may be 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, 1952, 1955; Feinstein & Wolpert, 1973; Harms, 1952a). 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 White (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.

## ASSESSMENT

The 1970's witnessed a growth in the number of studies on the theoretical and descriptive aspects of childhood depression. It appears that the 1980's will proceed to the next logical step with the development of techniques and instruments for assessing this disorder. Recent reports have been harbingers of this trend, with a Peer Nomination Inventory of Depression (Lefkowitz & Tesiny, 1980), Children's Depression Rating Scale (Poznanski, Cook, & Carroll, 1979) and the first published reports on the use of the Child Depression Inventory with preadolescent populations (Lefkowitz & Tesiny, 1980 and Leon, Kendall, and Garber, 1980) appearing in journals.

### Self Ratings

The self-report instrument has become the most frequently employed tool for quantifying depression in research with adults with affective disorders. Cytryn and McKnew's clinical and research experience with childhood affective disorders has led them to generalize this approach to this younger population and they have concluded, "that the patient remains the major source of information" (Cytryn & McKnew, 1980, p. 2801). Two self-rating scales that have been widely used in research with adult depressive disorders are the Zung Self-Rating Scale and the Beck Depression Inventory (Carroll, Fielding, & Blashki, 1973). The Zung Self-Rating Depression Scale (SRS) is



composed of a list of 20 symptoms to which the patient indicates how frequently he/she has been experiencing them (Zung, 1974). Lefkowitz and Tesiny (1980) selected 11 items from this scale on the basis of their face validity for childhood depression. They reduced the response alternatives from four (a little of the time, some of the time, a good part of the time, or most of the time) to two (yes or no) and administered it to 944 fourth and fifth grade children (48% males and 52% females). They reported that their modification of the Zung Self-Rating Depression Scale (MZUNG) had a significant but small ( $r=.14$ ,  $p < .001$ ) correlation with their Peer Nomination Inventory of Depression. They did not report the correlations of this measure with their other child and teacher-ratings of the child's depression.

The Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) has had more attention devoted towards modifying it for use with children. Albert and Beck (1975) reported a study of early adolescents where they used the adult form of the Beck Depression Inventory (BDI). This work led to Kovacs and Beck (1977) pilot testing the BDI on a clinical population between the ages of 11 and 15 years who were asked, "for feedback as to how to put the item choices in a format that could be 'clear to kids'" (p. 15). They then planned to pilot test their new Child Depression Inventory (CDI) with other samples of children and validate the instrument with clinician's ratings. Kovacs (Note 2) reports that the scale has subsequently undergone three major revisions and several minor ones. These revisions included the change from a four-choice format in the BDI to a three-choice

format in the CDI with one choice reflecting "normalcy", the second choice a definite although not clinically significant symptom, and the third alternative a serious and clinically significant symptom. The instrument was also revised to control for response bias with half of the items having the normal response first and in half the items the first responses were indicative of the greatest pathology. Kovacs (Note 2) reports that she is in the process of analyzing data from 875 Canadian school children and while the analyses are not complete, she reports a mean for this sample of 9.27, a standard deviation of 7.29 and a mode of 7. She suggests that a definition of deviance as the upper 10% of a distribution would make the CDI cutoff score 19.

Lefkowitz and Tesiny (1980) also modified an early version of the CDI to a two-choice format (one alternative symptomatic and one symptom free) which contained 12 items in contrast to the March 1979 version which contains 27. They found this Modified CDI (MCDI) had a significant and higher ( $r=.23$ ,  $p < .001$ ) correlation with their Peer Nomination Inventory of Depression (PNID) than the MZUNG ( $r=.14$ ). Since their primary interest was the concurrent and construct validity of the PNID, they did not report the correlations of the MCDI with the MZUNG or teacher-ratings of the child's depression.

Leon, Kendall, and Garber (1980) used an early 21 item version of the CDI which they modified by deleting the item on suicidal ideation. They mailed the Depression (D) and Hyperactivity scales of the Personality Inventory for Children (PIC) (Wirt, Lachar, Klinedinst, & Seat, 1977) to the parents of all the youngsters in grades 3-6 in a

suburban elementary school. They got responses on 138 children (53% males and 47% females) which was a response rate of 45.6%. They then identified groups of depressed and nondepressed subjects based on their D scores with the depressed group having T-scores 1.5 standard deviations above the published norms (mean T-score=73) and the nondepressed group had scores 1.5 standard deviations below the norms (mean T-score=39). There were 21 subjects in each group, all the subjects came from middle class homes, were Caucasian, and only three children were from single parent families (two depressed and one nondepressed). The mean age with both groups combined was 10 years, 9 months. The authors found a moderate correlation ( $r=.33$ ,  $p < .01$ ) between the D scale on the PIC and the version of the CDI they employed.

These studies suggest that while the Zung Self Rating Scale of Depression has been modified for use with a child population in one study, it has not generated alot of interest or advocates. In contrast Kovacs (Note 2), Lefkowitz and Tesiny (1980), and Leon et al. (1980) have all reported using the CDI with the former investing substantial time and effort in standardizing and validating this new instrument. These studies found moderate correlations between earlier and modified versions of the CDI with the PIC D scale and the PNID.

#### Peer-Ratings

Lefkowitz and Tesiny (1980) administered the PNID to groups of children and asked them to, "draw a line through the names on their class roster, 'which best fit the question'" (p. 45). The child could check "no child," but was not allowed to make a self-nomination. The

scale contained 20 items with 14 tapping depressive symptoms, 4 tapping happiness, and 2 concerned with popularity. As noted previously, the PNID was found to have a small positive correlation with the two self-rating measures and a larger correlation with a teacher-rating of depression ( $\underline{r}=.41$ ,  $\underline{p} < .001$ ). A random sample of 177 children was retested two months later with the PNID and the test-retest reliability coefficient was found to be ( $\underline{r}=.79$ ,  $\underline{p} < .001$ ) for the Depression score. They also tested the scale's construct validity with predictions that PNID scores would be negatively related to achievement scores, teacher rated social behavior, self-esteem, and income and positively related to measures of externality (locus of control), school absence and tardiness, lower body weight, and frequency of T.V. viewing. The magnitude of the absolute correlations was small ( $\underline{r}=.09$  to  $.27$ ) and in the expected direction in all but the last measure with 12 of the measures significant at  $\underline{p} < .001$ , one at  $\underline{p} < .01$ , and one at  $\underline{p} < .05$ . These findings led Lefkowitz and Tesiny (1980) to conclude that the PNID had adequate psychometric properties and would be a useful tool for gathering epidemiological data on childhood depression.

#### Teacher-Ratings

The teacher-rating utilized by Lefkowitz and Tesiny (1980) consisted of a definition of childhood depression followed by the instructions to rate each child on a range of depression using a five point scale with "not at all" and "extremely" the end points (p. 45). As noted earlier, this teacher rating had a moderate correlation ( $\underline{r}=.41$ ) with the PNID.

Leon et al. (1980) used the Connors Teacher Questionnaire (CTQ) which is a 39 item symptom checklist and yields scores on four factors: Conduct Problem, Inattentive-Passive, Tension-Anxiety, and Hyperactivity (Connors, 1969) to get teachers' ratings of their students' behavior. They used an analysis of variance design, Group (depressed/nondepressed) x Sex x Grade, to test each of the four factors on the CTQ. They found a significant main effect for Group (depressed children were higher) on the Inattentive-Passive factor,  $F(1,26)=5.89$ ,  $p < .05$ . Significant main effects were found on all but the Tension-Anxiety factor for Sex (boys displaying more problem behaviors) with that factor showing a main effect for Grade (third graders displayed less anxiety than fifth and sixth graders). A single Sex x Group interaction was significant with nondepressed girls having a lower score on the Conduct Problem factor than all the other groups of children.

Weintraub, Neale, and Liebert (1975) examined teacher-ratings on the Devreaux Elementary School Behavior Rating Scale assigned to children in grades kindergarten through ninth. The sample contained 58 children with a schizophrenic mother, 43 children with a depressed mother, and 114 children with mothers who had been screened and showed an absence of severe psychopathology. The results were analyzed using analysis of variance (ANOVA) and a 3 (Groups: children with a schizophrenic, depressed, or normal mother) x 2 (Sex) x 2 (Grade level: kindergarten-fifth and sixth-ninth) design for each of the 11 factor scores. Additional planned comparisons 1) contrasted the children

of depressed mothers with children of schizophrenic mothers and 2) compared children with a depressed or schizophrenic mother (target group) with the control group. The results showed that the target children were significantly different from the controls on 7 of the 11 Devreux factors. These included higher ratings on Classroom Disturbance, Impatience, Disrespectful-Defiance, and Inattentiveness-Withdrawal and lower ratings on Comprehension, Creative Initiative, and Need for Closeness to Teacher factors. There were no significant differences between the children of schizophrenics and the children of depressives on the 11 scales; however, in the ANOVA there were two significant Group x Sex interactions. The boys with depressed mothers and the girls with schizophrenic mothers had higher scores on the Impatience and Inattentive-Withdrawal factors than the sons of schizophrenics, daughters of depressives, or controls.

These two studies suggest that sex is an important factor in teacher-ratings of behavior problems in children and that social withdrawal and inattention are the behaviors in depressed children to which teachers are most sensitive.

#### Parent-Ratings

Achenbach (1978b) in his article on research in childhood psychopathology concluded that parents despite their potential biases are key sources of information and their reports tend to be more complete and reliable than those made by several other groups of adult observers. The PIC is a parent-report instrument of a child's

problem behaviors which was modeled after the MMPI and is described in an earlier section of this dissertation (see Nosological Considerations). The D scale of the PIC was employed by Leon et al. (1980) and they concluded that in comparison with the CTQ teacher-rating, the parents evaluated the depressed children as displaying more problem behaviors than the nondepressed children, while the teachers noted only that the depressed children appeared more inattentive and passive. As described in this section, the CDI had a moderate and significant correlation with the D scale of the PIC ( $r=.33$ ).

Cytryn, McKnew, Bartko, Lamour, Hamovit, and Bunney (Note 3) utilized parent-ratings on the CBCL D scale (see Nosological Considerations for a description of this instrument) in their study, "Offspring of Patients with Affective Disorders II." They found a significant correlation ( $r=.37$ ,  $p < .02$ ) between that measure and clinician ratings of childhood depression based on the criteria developed by Weinberg et al. (1973).

These studies show a modest, but significant positive correlation between parent-ratings of the child's depression and the child's self-ratings and clinician-ratings. Achenbach (1978b) suggests that there are situational effects that influence ratings and that the source of the report should be weighed depending upon its relevance to the variable of interest. This approach would place more emphasis on teacher-reports in a study of classroom behavior and on clinician-ratings in a study of behavior in psychotherapy. Griest, Wells, and Forehand (1979) found another factor, maternal depression, could

help account for the variability in different observers' ratings of childhood depression. This study focused on 22 mothers and their clinic referred children and found that maternal depression as measured by the BDI was a better predictor of maternal-ratings of the child's behavior problems than scores based on researcher's home observations of the children. This study also found that the more depressed mothers perceived their children as more maladjusted.

The availability of Depression scales of two parent-report instruments that have been carefully developed and standardized (PIC and CBCL) may make detecting childhood depression easier as these instruments become utilized more often in the standard child assessment battery. However, the sensitivity and reliability of parent-reports in the detection of childhood depression has still not been established. This problem has been commented on by Cytryn and McKnew (1980) who note that, "parents are seldom aware of even severe affective disorders, but their children are acutely aware of even mild changes in their own mood" (p. 2801). It is clear that more work needs to be done on establishing the reliability and validity of the Depression scales on the PIC and CBCL.

#### Clinician-Rating

The clinician is also frequently used as the observer of children's behavior problems. Often, the clinician is assumed to have some special capabilities and therefore their judgement is used as the criterion by which often measures are validated. However, global ratings by clinicians have often been found to be unreliable and



therefore semistructured and structured instruments have been designed to increase the interrater reliability by standardizing the diagnostic criteria. The Hamilton Rating Scale for Depression (HRS) is a widely used clinician rating form for assessing the severity of depression (Hamilton, 1960). Carroll et al. (1973) compared the HRS and the BDI with depressed patients from inpatient, day hospital, and general practice settings and found that the HRS was more effective than the BDI in discriminating among the three populations. The ratings, however were not "blind" and it is possible that the clinician ratings could have been colored by the setting (i.e. this is an inpatient unit, therefore, this woman is severely depressed). The HRS relies on observations obtained during a clinical interview as well as additional information from other sources the clinician may have available concerning the subject's behavior during the past week.

Poznanski, Cook, and Carroll (1979) developed a Children's Depression Rating Scale (CDRS) modeled after the HRS. They designed the scale to rate children between the ages of 6 and 12 years. They tested the CDRS on 30 children (63% male and 37% female) in a pediatric university hospital. Each child was interviewed by a child psychiatrist with a second child psychiatrist observer and then both clinicians made a global rating of depression as well as completing the CDRS. The results showed almost no correlation between the global ratings ( $r=.02$ ), while the global--CDRS correlation for each psychiatrist was high ( $r=.89$  and  $.92$ ) with the two CDRS scores showing a high interrater reliability ( $r=.96$ ). The items, morbid thoughts and

suicidal ideation, were omitted from the interviews because these researchers like Leon et al. (1980) were reluctant to ask these questions of a nonpsychiatric population. The authors note that in a pediatric liason service acute medical conditions and severe separation anxiety may present with very similar behavioral manifestations to childhood depression. They also observed that children were able to describe sleep difficulty with the same precision as adults and exceeded the authors' expectations in frequently reporting physical fatigue in excess of what their medical conditions would warrant.

McKnew et al. (1979) in their study of 30 children (ages 5-14) of patients with affective disorders (47% boys and 53% girls) employed several rating scales. In addition to the CBCL D scale, they used the Children's Affective Rating Scale (CARS) which they developed. It contains three items (mood and behavior, verbal expression, and fantasy) which are evaluated on a 10-point scale. They also used the Children's Psychiatric Rating Scale (CPRS) which was developed by the Early Clinical Drug Evaluation Unit at the National Institute of Mental Health. This instrument uses 8-point scales and for this study the items labeled depressed demeanor, depression, and preoccupation with depressive topics were used. The researchers interviewed children behind a one-way mirror with three observers rating the child in addition to the interviewer. The interviewer and two of the observers made independent ratings on the CARS and the selected CPRS items. There was a high correlation between the two three-item instruments ( $r=.77$ ,  $p < .01$ ), so they combined the scores on the two

instruments to yield a Depression score. The third observer made an independent diagnosis of the child's depression using the criteria developed by Weinberg et al. (1973). The Depression score based on the rating scales had a significant correlation with the clinical diagnosis of depression ( $r=.62$ ,  $p < .001$ ). There were no significant correlations found between the Depression rating and the age or sex of the child.

Puig-Antich, Blau, Marx, et al. (1978) in their pilot work employed the CPRS with a supplement relevant to depressive syndrome and conduct disorders. They used these instruments to see if prepubertal children met the unmodified Research Diagnostic Criteria (see Table 1) developed by Spitzer et al. (1977). In subsequent studies, Puig-Antich, Chambers, Halpern, Hanlon, and Sachar (1979) and Puig-Antich, Perel, Lupatkin, Chambers, Shea, Tabrizi, and Stiller (1979) employed the Schedule for Affective Disorders and Schizophrenia for School-Age Children (6-16 years). This instrument dubbed the Kiddie-SADS (K-SADS) was developed by Puig-Antich and Chambers. The instrument calls for interviews of the child and then the parent by the clinician after which the child's symptoms are rated for severity. The majority of items are rated for their severity at their worst during the present episode of the illness or the previous 12 months whichever is shorter, and during the last week (Puig-Antich & Chambers, Note 4). The clinician makes the ratings based on the two interviews and other available information. This data is then used to see if the child fits the Research Diagnostic Criteria for Affective Disorders (RDC-AF). While these researchers did

not employ other psychological measures to test the instrument's concurrent validity, they did employ physical ones and concluded that (cortisol hypersecretion) in children evaluated with the K-SADS who fit the RDC-AF criteria helped validate this instrument (Puig-Antich, Chambers, Halpern, Hanlon, & Sachar, 1979).

A standard psychological test battery is usually capable of detecting depression in adults. Cytryn and McKnew (1980) have found that, "routine psychological testing in children does not contribute significantly to the delineation of the diagnosis of affective disorders, though it may be helpful when the diagnosis is in doubt" (p. 2801). They do however use fantasy as one-third of their CARS and in an earlier article described their sources as childrens' fantasies portrayed in dreams and spontaneous play as well as elicited by projective techniques such as the Thematic Apperception Test (TAT), Rorschach Technique, Despert Fables (Despert, 1946), associations to television, movies and books, and stories accompanying the child's drawings (Cytryn & McKnew, 1974). They also cite the Rorschach and TAT as two methods for detecting an underlying depression when there is an absence of dysphoric affect (Cytryn & McKnew, 1972).

Matarazzo (1972) describes the case of a 41 year old depressed male to illustrate the use of qualitative analysis of the Wechsler Intelligence Scale for Adults. In contrast, Sattler (1974) in his book, Assessment of Children's Intelligence, makes no references to detection of a depressive disorder. Similarly, Pascal and Suttell

(1951) present several Bender-Gestalt Test Records of manic-depressive patients and report that compressed drawings (less than half the page is used) are sometimes found in the records of depressives. Koppitz (1963, 1975) in her monographs on the use of the Bender-Gestalt Test in children suggests that figures that are small in size (any one design is half as large or less than the area on the stimulus card) may be related to anxiety, withdrawal, and timidity in children. However, she makes no reference to depression nor does she describe any of the children in her case records as depressed.

Klopfers, Ainsworth, Klopfers, and Holt (1954) note that achromatic responses to the Rorschach cards that have a dysphoric flavor coupled with an absence of chromatic responses to the cards may indicate depression. In contrast, the widely used A Clinical Approach to Children's Rorschach's (Halpern, 1953) makes no references to childhood depression and interprets black achromatic responses as indicative of problems and conflicts with authority. Small (Note 5) observed this discrepancy in the literature, but has found in his clinical work that "black" responses coupled with the avoidance of color as well as constricted records (high F%) and a small number of responses are indicators of depression when found in children's Rorschach protocols.

Riddle and Rapoport (1976) utilized the TAT as their measure of depression in a follow-up study of 72 hyperactive boys. They administered cards 1, 3BM, 6BM, 13B, and 14 and then assigned a depression score using a bipolar scale that ranged from -9 (massively

depressed) to +9 (grandiose ideas of power and superiority). The interrater reliability on 30 randomly selected protocols of patients and controls (57 control subjects) for two raters on this scale was found to be high ( $r=.94$ ). In comparison to the control group, the patient group had significantly higher depression ratings on this scale ( $t= -4.68$ ,  $p < .001$ ). There were 12 children who made overt statements of helplessness and worthlessness on the structured interview and all of them had TAT stories that were moderately to severely depressive in content (an additional 5 boys also fell in this range). The TAT rating of depression did not correlate significantly with estimated stressful factors at home, academic achievement, or current symptom ratings at home or school.

Despite the recent upsurge in interest in childhood depression, there has been a paucity of reports on the pathognomonic indicators of this disorder on standard psychological test instruments. The standard texts in the interpretation of children's test responses are several years old which partly explains this phenomena. The reports on the use of the TAT by Riddle and Rapoport (1976) and Cytryn and McKnew (1972, 1974) suggest that this instrument may be sensitive in detecting childhood depression. The use of other psychological instruments for this purpose still needs to be investigated.

The recent development of most of the instruments utilized in assessing childhood depression makes any definite judgements on their validity and utility premature. The research does appear to indicate that some form of self-report is important with the CDI the most

carefully developed instrument currently available. Since the validity of the CDI has not yet been firmly established, it should be coupled with observer-ratings of the child's depression. Teachers appear to be good sources of information regarding the child's attentiveness and social withdrawal. The PIC and CBCL parent-reports are promising in that the Depression scale is part of an overall assesement of psychopathology which helps determine if an observed depression is primary or secondary to another psychological condition. It appears that the PIC and CBCL could greatly benefit from some validity indicators similar to those on the MMPI to help assess the reliability and motivation (i.e. parent wants to present a "good" view of the child) of the rater. The K-SADS, CDRS, and CARS have been developed to help quantify clinician-ratings of childhood depression. Unfortunately, their use has been confined primarily to their developers, so their reliability and validity with different populations and groups of raters have not been established. The standard instruments used in a child's psychological test battery have generally not been tested for their ability to detect and assess childhood depression. Projective techniques especially the TAT appear to be useful in tapping the fantasy material that Cytryn and McKnew (1980) feel is an important source of information.

In conclusion, if assessment becomes an important topic in childhood depression in the 1980's, the development of these new instruments has provided a strong foundation upon which researchers and clinicians can build.

## TREATMENT

The use of psychotherapy has been advocated in the treatment of childhood depression by a number of clinicians (Boverman & French, 1979; Frommer, 1968; Malmquist, 1977b; Toolan, 1978; McKnew & Cytryn, Note 6). 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, denial, repression, 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 (1977b) 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 6) 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 note that some families respond to a more directive and supportive style of treatment. They describe the goals of family therapy as decreasing the 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 substitute objects for the child inside or outside of the family system. When the child has

experienced early or chronic losses, play therapy may be an important adjunct to the family therapy 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 (MAOI) and tricyclic antidepressants in treating depressed children. She observed that children in her uncomplicated and phobic depressive groups responded better to MAOI 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 sulfate, had fainting spells with both problems leading to the discontinuation of the chemotherapy.

Gualtieri (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. In contrast, Puig-Antich, Perel, Lupatkin, Chambers, Shea, Tabrizi, and Stiller (1979) observed a two to three week latency in antidepressant effects, similar to the response of adult depressives, in the children they treated with imipramine. In a pilot study, Puig-Antich, Blau, Marx, et al. (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. A subsequent study (Puig-Antich, Perel, Lupatkin, Chambers, Shea, Tabrizi, & Stiller, 1979) was undertaken to determine the relationship between plasma levels of imipramine (IMI) and its metabolite desmethylimipramine (DMI) and the clinical response of children with a major depressive disorder. They studied 13 children with 6 cases in an open protocol and 7 with a double-blind design and the children had a mean age of 9 years (69% boys and 31% girls). They excluded one boy with delusional ideation from a post-hoc data analysis because he appeared to be contaminating the data with the second highest plasma level and the lowest clinical

response as measured by ratings on the K-SADS. The remaining 12 children were found to have significant correlations between their maintenance plasma levels of IMI and DMI and their scores on several ratings derived from the K-SADS after five weeks of treatment ( $r=.73$  to  $.82$ ,  $p < .01$ , two-tailed). However, they found no significant relationship between the daily dosage of IMI and clinical response. They divided the subjects into responders and nonresponders (full sample) and found a significant difference between the two groups,  $t(11)=2.36$ ,  $p < .05$ , two-tailed. When they eliminated the delusional subject they found that a cutoff score of 146 mg/ml for the IMI + DMI plasma level separated the two groups. This led them to suggest that this might be a minimum plasma level to achieve a therapeutic response with optimal treatment efficacy obtained with plasma levels greater than 200 mg/ml. The results of this study led the authors to tentatively conclude that imipramine is an effective therapeutic agent in the treatment of non-delusional, prepubertal depressive disorders.

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.

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 the child's responding 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 conducted in Turkey used 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 untreated depressed children improved. Ling et al. (1970) also used 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.

Pallmeyer and Petti (1979) reported on an adverse response to imipramine treatment in two boys (6 and 12 years of age) treated on a psychiatric intensive care unit. The Children's Behavior Inventory (Burdock & Hardesty, 1964) was completed on each child twice a day during their hospitalization. Both of these boys showed an increase in anger and hostility, while on imipramine and an abatement of these symptoms when the drug was withdrawn. The authors speculate that consistent with traditional theories on melancholia, the drug inhibited the repression of anger, which led to it being projected outward.

Abe (1979) reports on the use of the antidepressant, sulpiride, in treating children with school phobia who had depressive features. There were 24 children (9 to 18 years of age) in the study which was conducted in an outpatient department of a university hospital in Japan. All of the children had received previous nonpharmacological treatments. This study found that 54% of the children "recovered" and

13% "improved" with sulpiride treatment. A second drug, imipramine, was given to 9 of the 11 children in the "improved" and "unchanged" categories with 44% of those treated recovering. Two of the five children who did not recover with the sulpiride or imipramine were subsequently treated with a MAO inhibitor and "recovered".

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 heterogeneous 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). Mogens Schou (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. Mogens Schou'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. Mogens Schou 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 decreased aggression in delinquent youths aged 16 to 23 who were treated with lithium. Given, the paucity of 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 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.

Cohen-Sandler and Berman (1980) surveyed 375 pediatricians practicing in the Washington, D.C. area regarding their treatment preferences for depressive and self-destructive behavior in children. They received responses from 69 physicians (27%) and of those 64% "had at least one patient under 14 years of age who was in treatment for a depression with a mental health professional" (p. 53). Psychotherapy was the most preferred mode of treatment for the pediatricians and included child, family, and parent therapies. The next course of action suggested was contact with schools and clinics with outpatient medical treatment less desirable, and inpatient medical treatment rated least desirable. The use of pharmacotherapy apparently was included in the preferred treatment modality for both depression and self-destructive behavior" (p. 55).

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 6) 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 (Poznanski, 1979). It is not surprising then that this concept has attracted the most attention in discussions of the psychodynamic causes of childhood forms of this disorder. Malmquist (1972) reviewed the work of Melanie Klein and described her view 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. A corollary of this concept is that the loss of a parent may not be experienced as a "loss of well being," if another parent or parent substitute is available for the child. Graham (1974) expanded upon this broader concept of loss and added separation from siblings or peers, maternal deprivation stemming from psychological rather than physical absence, and physical illness as events which could engender the feelings of loss in a child. Cytryn and McKnew (1980) give an example of this psychological absence: a sudden withdrawal of interest by a central figure in the child's life while maintaining a physically intimate presence. When this occurs and there is no alternative love

objects, then it is the "loss of a crucial positive relationship" that leads to a depressive reaction in the child (p. 2802).

Brandes (1971) notes 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 accustomed 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 4 years as protest, despair, and detachment. He reviewed the concept of separation anxiety and described it as a reaction to the danger of losing a love-object in contrast to mourning which is the process of retreat from the lost object and depression which is a defense against the anxiety and pain brought on by the loss.

Malmquist (1972) discusses two other factors that can lead to the child's becoming susceptible to depression. The first is based on the idea that the child develops a self-concept through other people's

evaluations. When the adults in the child's environment make repeated criticisms and devaluing remarks, the child internalizes a feeling of unworthiness. The second factor is the child's internalizing 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. Blotcky and Kimsey (1970) describe a causal link between object loss and lowered self-esteem, "A child who loses an object loses some self-esteem. He feels that he has lost the object because he did not deserve it, or he actually made it go away" (p. 64).

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 an overly critical super-ego.

#### Biological Viewpoint

Cytny, 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 one hypomanic and eight depressed 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 (Cytryn & McKnew, 1972) and labelled four subjects chronic depressive, three acute depressive, one masked depressive, and one hypomanic. A group of 18 boys all 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 (NE) excretions in comparison to the controls while the vanillylmandelic (VMA) excretion was lower in seven of the eight depressed patients. The 3-methoxy-4-hydroxyphenylethyl glycol (MHPG) level was measured in six of the depressed and hypomanic patients with four showing values different from the controls, but without a clear trend in the direction of the difference. 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 in urinary metabolites do occur in affectively disturbed children and those with chronic affective disorders have more clear cut differences.

McKnew and Cytryn (1979) conducted a follow-up study with a more uniform group of patients, all with a chronic depressive reaction. There were nine children, ages 6-12, in the depressive group, the outpatient control group was the same as in the previous study, and a second comparison group of nine patients, ages 6-12, who were free of psychopathology as measured by the CARS and were convalescing with a fracture of a lower limb was added. The data collection techniques were similar

to those employed in their previous report. The urinary metabolites NE, VMA, and MHPG were studied with only MHPG showing a significant difference between the three groups. The level was highest in the normal control group and lower in the depressed children which is similar to findings reported in depressed adults. The contrast group of convalescing orthopedic patients showed an even lower MHPG level than the depressed subjects which led the authors to speculate that activity levels or a masked depression in the contrast group may have accounted for these findings. The failure to replicate the NE and VMA findings from the first study and the finding of MHPG with significantly different scores in the wrong direction for one contrast group suggests that these findings are not reliable. The small sample sizes as well as the inherent problems in controlling for diet, activity level, and age in these studies probably contributed to these discrepancies.

Puig-Antich, Chambers, Halpern, Hanlon, and Sachar (1979) studied the plasma cortisol levels in four prepubertal children who fit the unmodified RDC for major depressive disorder, endogenous subtype. They used an indwelling venous catheter to obtain blood plasma at 20 minute intervals for periods of 10 to 24 hours. They made hormonal assessments prior to imipramine treatment and following clinical recovery. They found that two of their four subjects displayed cortisol hypersecretion during the depressive episode which subsided after clinical recovery. This pattern is similar to that observed in adult depressives which led the authors to propose that this finding helps substantiate



their view, "that child and adult major depressive disorder are basically the same illness occurring at different points in development" (p. 196).

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.

The discovery of perceptual, sensory-motor, or cognitive deficits in depressed children in comparison with normal children would also support a biological model of depression. This support would be

strengthened if these deficits could be linked to biochemical changes. Grunebaum, Cohler, Kauffman, and Gallant (1978) carried out a three year follow-up study of 18 mothers with a diagnosis of schizophrenia, 12 mothers with a diagnosis of unipolar or bipolar affective psychosis, and 22 well mothers and their children (6-12 years of age). The mothers' and children's intellectual ability was assessed using the Shipley-Hartford Retreat Scale for the mothers and the Wechsler Intelligence Scale for Children (WISC). The authors state that they only used the Verbal subscale on the WISC which is not a subscale, but a composite of several subscales. It is unclear from this characterization of their method whether they used the Verbal Intelligence Quotient or the Vocabulary subscale of the WISC. They also gave a measure of attention, Embedded Figures Test (EFT), and a measure of concentration, Continuous Performance Test (CPT), to both the mothers and children. A Social Functioning score was assigned to each child based on interviews with the parents and child. The intelligence scores of the mothers and children were missing from the Results section of the paper, but a small reference to the children's scores in the Discussion section appears to indicate that no difference was found between the children of depressed and normal mothers. Given the incomplete description of this aspect of the study in the report, it is impossible to interpret this finding. The EFT was scored for both time to correct identification of the standard in the distracting background summed across all 20 test stimuli (Time) and the total number of cards on which the embedded figure was correctly identified (Error). There were no

significant differences found between the three groups of mothers on the Time or Error scores using ANOVA. A 3 (Group: schizophrenic, depressed, and well) x 2 (Sex) ANOVA was done for both the Time and Error scores of the children. There was a significant main effect for Group,  $F(2,46) = 3.38$ ,  $p < .04$ , and a significant Group by Sex interaction,  $F(2,46) = 3.29$ ,  $p < .04$ , on the Error score. Most of the variance was found to be due to the depressed boys making a greater number of errors than the other groups. The Time score also showed a similar result with the depressed boys taking the most time, but only the Group main effect was significant,  $F(2,46) = 3.95$ ,  $p < .02$ .

The CPT test results showed the schizophrenic and depressed mothers were different from the normals, but their differences were found on separate parts of the test. The children displayed more consistent differences with the children of the depressed mothers making significantly more errors of commission and omission ( $p < .01$  and  $p < .04$ , respectively). Sex and Sex by Groups interactions were not found to be significant.

The authors note that the children in the two patient groups showed only small differences in their descriptions of their social functioning in contrast to the mother's reports where the depressed mothers depicted their children as "doing significantly worse than either control or schizophrenic mothers whose reports do not differ significantly" (Grunebaum, et al., 1978, p. 225).

Worland (1979) examined the Developmental Level scores, an index of the maturity of visual perception and analysis, taken from

the Rorschach protocols of 79 children with one schizophrenic parent (CSZ group), 51 children with a manic-depressive parent (CMD), 59 children with one physically ill parent (CPI), and 116 children of normal parents (CN). The offspring ranged in age from 6 to 20 years of age and the Rorschach protocols were rated blind by four psychologists who were provided only the subject's age and sex. A significant main effect was found for the parental diagnosis with the DL scores as the dependent variable. Planned comparison was done using the Neuman Keuls procedure. The CSZ children had lower DL scores than either the CPI or CN control groups. The CMD children however, did not show significant differences on their DL scores in comparison to the control groups. This latter finding is in contrast to MacAuslan's (1975) observation of developmental differences in the neurological functioning of depressed and normal children with the depressed children displaying a developmental delay (for a more complete review of this study see p. 35).

Leon, Kendall, and Garber (1980) found no significant difference between the IQ scores as measured by the Peabody Picture Vocabulary Test (PPVT) of their depressed and nondepressed children. Brumback, Jackoway, and Weinberg (1980) also failed to find significant differences between the IQs of their depressed and nondepressed subjects as measured by the PPVT, WISC, and Wechsler Preschool and Primary Scale of Intelligence (WPPSI). However, Ossosky (1974) who did not employ a control group observed that depressed children who were treated with imipramine showed improvement on their WISC scores.

Similarly, Brumback, Staton, and Wilson (1980) report on two depressed boys who while experiencing a depressive episode had impaired cognitive functioning. These children were given intellectual (WISC-R) and neuropsychological tests before and after treatment with amitriptyline. They showed substantial improvement on their WISC-R scores following treatment with their greatest improvement in visual-motor tasks. One subject was given an Attention Test Battery and he showed decreases in the number of errors and time to completion scores following treatment. This finding is consistent with the finding of similar deficits among the children of manic-depressive mothers in comparison to children of schizophrenic and well mothers (Grunebaum et al., 1978).

The studies reviewed above present conflicting reports on whether or not depressed children's cognitive and perceptual abilities are impaired. The differences in the definition of depression employed in these studies is part of the problem. However, another explanation of these conflicting results is also presented by studies that show these deficits are episodic rather than permanent which makes assessment of the child's current emotional functioning important. An assessment of the child's depression that is not conducted within a couple of day's of the intellectual or perceptual testing may lead to the child being placed in the wrong group, since it appears that any cognitive deficits may be tied closely to the depressive episode. There is a need for additional studies that are longitudinal (pre and post-treatment) and employ control groups to test the hypothesis that cognitive deficits occur in depressed children while they are depressed, and these deficits remit with clinical improvement.

### 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 Feighner 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 45% 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. In contrast, none of 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 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 Institutes of 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 the depression was not correlated with age and most of the depressed children in the study displayed symptoms of a primary affective disorder.

Cytryn, McKnew, Bartko, Lamour, Hamovit, and Bunney (Note 3) conducted another study to replicate their previous findings and improved their methodology by employing blind interviewers and raters as well as control groups. They studied 19 index children of 14 inpatients with a diagnosis of major affective disorder (MD group), one

comparison group with 9 children of 6 parents with both mental and physical illness (P1 group), 8 children of 5 parents with chronic physical illness and free of any major mental disorder (P2 group), and 21 control children of 13 parents with no major physical or mental disorder (N group). The groups P1, P2, and N were matched with the MD groups for the factors age, sex, and SES. The children were all interviewed twice with four months between the two interviews.

This study found 63% of the MD group, 56% of the P1 group, 13% of the P2 group, and 24% of the N group to be depressed at one or both interviews. Intergroup comparisons were done between the MD group and the three control groups using the Fisher Exact Test and the MD x N comparison ( $p < .02$ ) and the MD x P2 comparison ( $p < .01$ ) were found to be significant using a one-tailed test, and the MD x P1 comparison was not found to be significant. The authors concluded that this study supported and extended their previous one in demonstrating a greater risk for a depressive disorder among children with an affectively ill parent in comparison to children of normal controls, and the alternative hypothesis of a hospitalized parent being the causal factor in the development of the child's depressive symptoms was not supported.

Conners, Himmelhock, Goyette, Ulrich, and Neil (1979) studied 126 children of 59 families who had one parent attending an adult affective disorders clinic. All of ten affected parents (14% male and 86% female) had been diagnosed as either bipolar (27%) or unipolar (73%) manic-depressive using the criteria of Feighner et al. (1972). Both mothers and fathers in these families were mailed the Conners Parent



Questionnaire (CPQ) and asked to rate their children on it. This scale has eight subscales developed from factor analytic studies as well as a hyperkinesis index developed through correlations with independent measures of hyperkinesis. The authors used analysis of variance and found the diagnosis (unipolar vs. bipolar) and marital status (married vs. divorced) had impact on the CPQ scores; however, the authors did separate ANOVAS using different variables for each subscale, and it appears that the variables diagnosis and marital status were confounded, thus making it difficult to ascertain which variable was contributing to the observed differences. The differences were in the direction of more symptomatic behavior among the offspring of unipolar and divorced parents. This study also reported "moderately high" correlations between the two parents' ratings on the CPQ across factors ( $r = .35$  to  $.65$ ). This latter finding is of questionable validity given the studies methodology of mailed responses which did not insure the independence of the raters. The relevance of this study to a genetic model of depression is minimal, since the scores of the index children on the CPQ were not compared by the authors to scores of children of normal parents and the CPQ does not have a depression subscale.

The studies conducted by Welner, McCrary, and Leonard (1977), McKnew et al. (1979), and Cytryn et al. (Note 3) 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 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 effects 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; Poznanski & 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. Poznanski and Zrull (1971) 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, 1978; Brandes, 1971). The child's role within the family has also been singled out for attention with Malmquist (1971a) suggesting that a child who is selected as the favorite, "the Joseph syndrome" (after the biblical theme) has

difficulty with peers and intrafamilial relationships may develop a depressive reaction.

Widmer, Cadoret, and North (1980) studied the families of a group of depressed patients (154) seen in a rural family practice setting and a matched group of nondepressed patients and 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.

Mayo, O'Connell, and O'Brien (1979) studied the families of 12 patients with bipolar manic-depressive illness. They interviewed 22 (88%) of the children in these families. The children ranged in age from 6 to 17 years. They used a Clinical Global Impression

10-point scale to rate the children with four and above considered moderately ill or symptomatic. Forty-five per cent of the children they studied were at or above the cutoff score of four with the DSM-II diagnosis of childhood behavior disorder (i.e. unsocialized aggressive, withdrawing, and overanxious reactions of childhood) assigned most frequently. There were two children who were classified as having childhood depression, although the criteria for this diagnosis was not given (the diagnosis is not included in DSM-II). They found that separation anxiety was characteristic of all the children they interviewed and the symptomatic children responded to the family's problems with denial and tended to be overly involved with the affected parent. The families were observed to have high levels of stress which showed some reduction when the manic-depressive parent showed clinical improvement while on lithium prophylaxis. They observed that a manic-depressive patient particularly during the height of a manic episode creates considerable intrafamilial as well as extrafamilial conflicts. The authors concluded from this study that the recurring psychopathology of manic-depressive patients produces an environment that has detrimental effects on the psychosocial adaptation and personality development of their offspring.

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 than 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 depressed individuals 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 displayed by depressives. 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. Abramson and Sackeim 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 would make this paradoxical attribution.

Wortman (1976) reviewed the literature on causal attributions and personal control and concluded, "that people minimize the role of chance in producing various outcomes, exaggerate the relationship between their behavior and 'uncontrollable' life events, and tend to be unaware of the extent to which their behavior is controlled by uncontrollable forces" (p. 43). So the paradoxical position that depressives occupy in making internal attributions to negative uncontrollable events, is not so unique with normal subjects also overestimating their influence over events. Golin, Terrell, Weitz and

Drost (1979) studied the phenomena of "illusion of control" which is when a person's expectations of success is higher than the objective probabilities relating to the event. They studied 55 adult inpatients and used a median split on the BDI (greater than 17 were defined as depressed) to obtain depressed and nondepressed groups. They had the subjects estimate their expectation of success and bet in a dice game under the conditions of player or croupier control depending upon who threw the dice. They employed a 2 (Depression: depressed and nondepressed) x 2 (Control: player and croupier) x 2 (Sex: male and female) ANOVA and found a significant Depression x Control interaction,  $F(1,47)=5.76$   $p < .05$ . The depressed subjects displayed a much lower expectation of success under the player control condition than the nondepressed subjects. A planned comparison was carried out and the nondepressed subjects were found to have a significantly higher,  $t(25)=2.56$ ,  $p < .02$ , expectation of success under the player control condition in comparison to their expectations under the croupier control condition (illusion of control). The authors concluded that these findings supported their hypothesis that "illusion of control" is present in nondepressed subjects and absent in depressed subjects. It should be noted that the event being predicted was a positive one (winning at dice), so this study supports the authors' hypothesis under the condition of the event having a positive outcome.

The attributions made by depressed subjects to negative events was the focus of Abramson and Sackeim's (1977) hypothesized paradox. Two recent studies have investigated the presence of this paradox among



nonclinical undergraduate paid subject populations (Garber & Hollon, 1980; Peterson, 1979). They both employed the BDI with the former study using a cutoff score of nine (subjects with scores of nine and above were assigned to the depressed group). Peterson (1979) studied the responses of 80 undergraduates (50% males and 50% females) to the BDI; a locus of control scale; and to how well they liked, how frequently they were in, how helpless they felt, and how guilty they felt when they were in 12 self-roles (i.e. myself as a student or myself as a winner). He found that depression as measured by the BDI was positively correlated ( $r=.50$ ) with the subjects' perceptions of how frequently they were in undesirable roles and negatively correlated ( $r=-.26$ ) with their perceptions of being in a desirable role. There were positive correlations between depression and the subjects ratings of guilt and helplessness in all the roles which led the author to conclude that his findings supported the existence of the paradox of depressives feeling helpless and guilty about the same event.

Garber and Hollon (1980) studied the expectations of future success made by 64 undergraduates (50% males and 50% females) to tasks of chance or skill with half of the subjects performing the tasks (actor) and half watching a confederate of the experimenters perform the task (observer). This study found that both depressed and nondepressed subjects showed large changes in expectation of success when observing another person engaging in a task requiring skills. However when estimating their own future performance on a skilled task, the depressed subjects displayed a significantly smaller increase in their

expectations following success than the nondepressed subjects,  $F(1,30) = 7.72, p < .01$ . The authors interpreted these findings as suggesting "that depressed and nondepressed individuals do not differ in their perceptions of tasks per se but only in their belief about their own responses to the task" (p. 63). They felt this finding supported Abramson et al.'s (1978) construct of personal helplessness in the learned helplessness model.

Rholes, Blackwell, Jordan, and Walters (1980) reviewed the literature on the attributions of causality made by children. They summarized their findings as suggesting that younger children (5-6 years of age), "may be less susceptible to helplessness than older children because they do not view failure as implying stable limitations on their performance" (p. 617). They tested these hypotheses in a study of 20 subjects (40% males and 60% females) from each of four grades, kindergarten, first, third and fifth, in a parochial school. The children were yoked in success and failure conditions to control for effort in a task of finding hidden figures in puzzles. The dependent variables used to measure helplessness were persistence on an insoluble hidden figures task, persistence on a different task (generalization), and success on a third task (soluble hidden figures). The children were also asked to rate their current mood following the failure-success condition. The authors found that the younger children (grades kindergarden, first, and third) showed no indications of helplessness on either of the hidden figures tasks (persistence and success measures). In contrast, the fifth graders who were in the failure condition showed decrements in

both their persistence and success on the hidden figures tasks. None of the children gave any evidence of learned helplessness on the generalization task. The fifth graders were the only age group where outcome (success versus failure) had a significant impact on mood (a posteriori comparison,  $p < .05$ ) and they showed sad affect in the failure condition which is consistent with the behavior measures.

Following completion of the first hidden figures task (success or failure conditions), the children were asked to make ability, effort, and luck attributions for their performance. The authors, based on their literature review, made predictions that younger children would show a pattern of halo effects and attribute successful performance to high effort and ability and failure to low effort and ability (positive correlation). In contrast, older children would employ a compensatory schema and attribute high effort and low ability to successful performance and low effort and high ability to a failure to perform (negative correlation). They examined the correlations between effort and ability attributions for each grade and found some support for their hypotheses with the kindergarden, first, and third graders showing positive correlations ( $r = .21$  to  $.42$ , not significant) and the fifth graders a negative correlation ( $r = -.52$ ,  $p < .05$ ) with both success and failure conditions combined. The authors suggest that since a person's perceptions of himself or herself as having little ability and expending alot of effort contribute to helplessness, then younger children employing the halo schema would be afforded some protection by virtue of their having a positive covariation between two causes, effort and ability,

that have opposite effects on helplessness. The authors felt that their results did not demonstrate the absence of the learned helplessness phenomena in younger children, rather it supported the hypothesis that they are, "relatively less susceptible to helplessness" (Rholes et al., 1980, p. 621).

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 learned helplessness model of depression proposed by Seligman, and the nonadaptive responses of self-blaming, other-blaming, and helplessness were consistent with the cognitive model of depression developed by Beck.

Kendall, Garber, and Leon (Note 7) 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 rationale for the use of 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 8) 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 10 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 ( $r = -0.13$  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 ( $r = 0.17$  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 ( $r = 0.36$ ,  $p < .001$ ) 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 ( $p < .02$ ), 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 noncontingent) produces feelings of hopelessness and helplessness culminating in depression" (Lefkowitz et al., Note 8, p. 9).

The findings of Moyal (1977) and Lefkowitz et al. (Note 8) 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. Rholes et al.'s (1980) study lends further support to the use of the learned helplessness model with children, but it also suggests that children between approximately 5 and 8 years of age may be less susceptible to a helplessness role because of their attributional style. Kendall et al.'s (Note 7) study also lends support to the hypothesis that younger children are less susceptible to helplessness with its finding that they make internal attributions to positive events and external attributions to negative events which is opposite the attributional style the cognitive and learned helplessness models of depression ascribe to depressives.

Wortman's (1976) hypothesis that normal subjects show an "illusion of control" was supported by Golin et al.'s (1979) study that found nondepressed adults overestimating their chance of success and depressives showing no overestimation for a positive event. Abramson and Sackeim's (1977) hypothesized paradox of depressives overestimating their responsibility for an uncontrollable negative event was supported by two studies (Garber & Hollon, 1980; Peterson, 1979). Garber and

Hollon (1980) also found support for Abramson and Sackheim's resolution of the paradox with depressed subjects viewing the situation as potentially controllable, but feeling they could not reliably make the correct response (personal helplessness).

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 7).



## SUMMARY AND HYPOTHESES

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. However, 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. Manic symptoms in children have been reported most frequently in 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.

The primary purpose of this study is to examine several theories regarding the etiology of childhood depression. However, the absence of any well validated and widely adopted measures of childhood depression, necessitates a preliminary step of providing some validation for these measures. [Since the self-report has been the most widely used tool in research on adult depression, the Child Depression Inventory (CDI) will be the main measure employed here. It's concurrent validity will be tested using the Child Behavior Checklist (CBCL), Depression (D) scale (parent-rating) and a Depression score derived from the Thematic Apperception Test (clinician-rating). Hypothesis 1 predicts that these three measures will have significant positive correlations. The internal consistency of the CDI will also be assessed by examining the correlations of the individual items with the total score on the scale.

A lack of consistency has been found between different raters' assessments of the child's depression (Cytyrn & McKnew, 1980; Leon et al., 1980). Given this lack of consistency and the paucity of research on the construct validity of childhood depression scales, this study will also employ a second measure of depression that is based on parent-ratings (CBCL, D scale). The utility of the CBCL will be examined by looking at the correlation of the D scale with the CDI and Thematic Apperception Test (TAT) Depression score (hypothesis one) to see if they provide concurrent validation. The profile type of

Depressed-Social Withdrawal-Aggressive on the CBCL (Edlebrock & Achenbach, Note 1) contains most of the symptoms in Brumback et al.'s (1977) syndrome of childhood depression. Hypothesis 2 predicts that depressed boys (as measured by the CDI) will frequently display this profile type which would support the use of this profile in detecting childhood depression from parent-ratings. The reliability of the CBCL in assessing childhood depression has been called in to question by some evidence that depressed mothers tend to see their children as having more behavior problems than nondepressed mothers (Griest et al., 1979; Grunebaum et al., 1978). Hypothesis 3 predicts that there will be a significant positive correlation between the mother's self-ratings of depression and their ratings of their child's depression (T-score on the CBCL, D scale) and their ratings of their children's behavior problems (T-score for total number of behavior problems on the CBCL).

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 type of treatment being received by the depressed and nondepressed patients in this study will be examined.

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 most 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, environmental, learned helplessness, and cognitive theories of childhood depression, but none of them has received substantial confirmation.

Several studies have investigated the relationship between adult and childhood depression by examining the offspring of depressed adults for evidence of depression (McKnew et al., 1979; Welner, Welner, McCrary, & Leonard, 1977; Cytryn et al., Note 3). These studies found that many of the children displayed evidence of a depressive disorder. The relationship between maternal depression and child depression will be investigated in this study using a different sampling technique, the child rather than the mother will serve as the proband. Hypothesis 4 predicts that the mother's self-ratings of depression will have a significant positive correlation with the son's self-ratings of depression. This finding would lend support to psychodynamic (loss of a parent), genetic, and environmental models of depression.

The environmental model will be explored further by examining the demographic variables, marital status and birth order, to see if they discriminate the depressed from the nondepressed boys. Kerman (1980) found that severely depressed subjects in his study more frequently came from larger families,  $\chi^2(25) = 39.72$ ,  $p < .05$ . He did not have birth order data available, but hypothesized that this finding may be due to depressed boys frequently being the oldest which would entail greater responsibility that may be developmentally inappropriate, and thus make them more prone to a depressive reaction. Hypothesis 5

will test this view by seeing if more depressed boys occupy the oldest versus other birth order positions. Poznanski and Zrull (1971) found that the depressed children they studied had more frequently experienced parental loss through divorce and abandonment than death. They hypothesized that marital discord makes the child more susceptible to a depressive reaction. Hypothesis 6 will test whether boys who come from intact families display less depression than children who have separated or divorced parents.

The major focus of this study is an examination of the applicability of the cognitive and learned helplessness models of depression to affective disorders in childhood. There has been some support for the learned helplessness model of depression provided by studies that found depressed children displaying an external locus of control (Moyal, 1977; Lefkowitz et al., Note 8). Hypothesis 7 will test to see if these findings can be replicated by seeing if depression as measured by CDI has a significant positive correlation with the Externality scale on the CBCL. Rholes et al. (1980) studied a similar age range to the one studied here (6 to 11 years) and found that the younger children were less susceptible to learned helplessness. If the learned helplessness model is valid, then following this finding it would predict that older children will display more depression than younger children. Hypothesis 8 will test to see if there is a significant developmental trend in the prevalence of depression with older children showing it more frequently.

The attributions made by boys to events that vary according to their controllability (controllable or uncontrollable) and their value (positive or negative) will be examined. The cognitive and learned helplessness models of depression would predict that depressed boys would make external attributions to positive events and internal attributions to negative events. A logical prediction for normal subjects is that they would make internal attributions to controllable events and external attributions to uncontrollable events. An exception to this prediction would be for the positive uncontrollable events where normal subjects would employ "the illusion of control" and make internal attributions. These hypotheses would predict that depressed boys would make external attributions to positive events regardless of their controllability, while nondepressed boys would make internal attributions to positive events regardless of their controllability. Hypothesis 9 predicts that depressed boys will make significantly more external attributions to positive controllable, positive uncontrollable, and positive (both controllable and uncontrollable events combined) events than nondepressed boys. Following the reasoning given above, it is expected that depressed subjects will make internal attributions to negative controllable events based on the negative factor, and nondepressed subjects will show a similar response based on the controllable factor.

The paradoxical position of depressed individuals feeling both guilty and helpless about the same event was elaborated on by Abramson and Sackeim (1977). The studies conducted by Peterson (1979)

and Garber and Hollon (1980) have provided support for the existence of this paradox in nonclinical undergraduate populations. This study will hypothesize that these findings can be replicated and extended to a more severely depressed child clinical population. Hypothesis 10 predicts that depressed boys will make more internal attributions to negative uncontrollable events than nondepressed boys. Abramson and Sackeim (1977) proposed the construct of personal helplessness as partially explaining why depressed individuals make these paradoxical attributions. This partial resolution suggests that depressed individuals feel that an event could be controlled by another person, but that they lack the appropriate skill or ability to reliably control the situation. Garber and Hollon's (1980) study provided evidence to support this view. The present study will examine the perceptions of the depressed boys to see if they feel that some other person could have influenced the negative uncontrollable events, while they were not able to. Hypothesis 11 predicts that depressed boys will more often perceive themselves as personally helpless when faced with negative uncontrollable events in comparison to nondepressed boys.

## METHOD

### SUBJECTS

Subjects were 45 boys, 6-11 years of age, and their mothers living in Metropolitan Washington, D.C. The sample included 26 subjects who were active patients or had terminated treatment in the preceeding six months at the Northwest Center for Community Mental Health, in Reston, Virginia. An additional four subjects were currently or recently patients of private practioners. The charts of the Northwest Center patients were reviewed and 15 of them met Brumback et al.'s (1977) criteria for a diagnosis of childhood depression. The sample also included 15 boys who had not been referred for evaluation or treatment of emotional or behavioral problems in the preceeding year. This a priori selection process was carried out to insure that there were depressed as well as nondepressed boys represented in the sample population.

The mean age for the boys in this study was 9 years 6 months (computed using age in months). The sample was 98% Caucasian and 2% Black with 51% of the boys living with both parents (two boys were living with mothers who had remarried and one was living with foster parents), and 49% were living with one parent with 30% of the latter group from families where the parents were separated.



The sample was divided into three levels of depression, Moderately and Severely, Mildly, and Nondepressed categories, using the boys' scores on the Child Depression Inventory (CDI). The clustering of scores in the middle part of the range of CDI scores prohibited the formation of three equal groups. The Nondepressed group (N=17) contained boys whose CDI scores were 7 or below, the Mildly Depressed group (N=15) had CDI scores between 8 and 12, and the Moderately and Severely Depressed group (N=13) had CDI scores greater than 12. Kovacs (Note 2) using a definition of deviance as the upper 10% of the distribution, derived a cutoff score of 19 on the CDI based on her study of 871 Canadian school children. A further subdivision of the Moderately and Severely depressed group was done to reflect this cutoff score and yielded a moderately depressed group (N=7) with CDI scores between 13 and 18 and a Severely Depressed group (N=5) with scores greater than 18. This division was utilized in analyses employing four levels of depression. Two-thirds of the sample were patients and the Severely Depressed group was composed entirely of patients (100%), the Moderately Depressed group had 86% patients, the Mildly Depressed group had 67% patients, and the Nondepressed group had 50% patients.

A second three level division of the sample was carried out using the T-scores on the Child Behavior Checklist (CBCL), Depression (D) scale. The clustering of scores in the middle part of the range again prevented division of the sample into three equal groups. The Nondepressed group (N=14) had T-scores less than 60, the Mildly

Depressed group (N=18) had T-scores between 60 and 67, and the Moderately and Severely Depressed group (N=13) had T-scores greater than 67.

## APPARATUS

The CBCL developed by Achenbach (1978a) records parent's reports of children's competencies and problems in a structured format. This instrument was standardized with 6-11 year old boys and yields nine problem behavior scale scores and three social competence scores including a problem behavior scale labeled Depression. The problem behavior scale scores were developed using factor analysis of the CBCL's of 450 emotionally disturbed boys.

The CDI is self-administered with the assistance of a research assistant (Kovacs & Beck, 1977). It contains 27 items with three response alternatives for each item. The three-choice format was developed with one alternative representing a "normal" response, a second response indicative of a definite, but probably not a clinically significant problem, and the third response indicating a serious and clinically significant symptom. The CDI was developed from the Beck Depression Inventory (BDI) with several revisions made to make the language and content more appropriate for use with a younger age group. The August 1979 revision of the CDI was utilized in this study (Kovacs, Note 9).

The Beck Depression Inventory (BDI) contains 21 items which are self-administered by an adult. There are four response alternatives for each item and the items assess the presence of the four

categories of symptoms (affective changes, cognitive changes, motivational changes, and vegetative and psychomotor disturbances) that Beck described as constituting the adult depressive syndrome (Beck, Rush, Shaw, & Emery, 1979).

The Bender Visual Motor Gestalt Test (BG) contains nine geometric figures that the subject is asked to reproduce with paper and pencil (Bender, 1946). The data from this instrument will be reviewed in a future study.

The Boys' Attribution Scale (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 subject's 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 six items for each of these categories with 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 (see Appendix A). These two choices were randomly distributed between the first and second response positions following the stories. This instrument was pilot tested in a previous study (Kerman, 1980) and developed for use in the present one. A BAS Supplement was designed to follow the BAS and evaluate the boys' perceptions of whether or not they or other people could exercise control over the negative uncontrollable items.

The Thematic Apperception Test (TAT) is a series of pictures that are presented to a subject who is encouraged to tell stories about them (Murray, 1943). The cards 1, 3BM, 6 BM, 13B, 14, and 16 were used to obtain a global rating of depression (Riddle & Rapoport, 1976).

## PROCEDURE

The researcher and research assistant met briefly with the mother and her son during which time they explained the nature of the study and obtained written consent from the mother and oral consent from the son for their participation in the study. The subjects were also informed that the results were confidential and the system of using a subject identification code was explained.

The mother was interviewed by a female research assistant, while the son was interviewed by the male researcher. The boy was seen individually in a well lighted room, and after some initial conversation to establish rapport he was administered the BG test using the standard instructions, "Here are some figures for you to copy; Just copy them the way you see them" (Bender, 1946, p. 6).

The CDI was administered next with the child given the following instructions,

Kids sometimes have different feelings and ideas.

This form lists the feelings and ideas in groups. From each group, pick one sentence that describes you best for the past two weeks. After you pick a sentence from the first group, go on to the next group.

There is no right answer or wrong answer. Just pick the sentence that best describes the way you have been recently. Put a mark like this X next to your answer. Put the mark in the box next to the sentence that you pick (Kovacs, Note 9, p. 1).

The child will be reminded that he is being asked about his thoughts and feelings in the last two weeks. Next the boy was administered the BAS with the following instructions, "I would like to read you some make believe stories. I want you to pretend 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." Following the administration of the BAS, the boy was told, "I would like to read you some of the stories again. I want you to tell me if they might have turned out differently." The BAS Supplement included the six items from the negative uncontrollable condition as well as four buffer items from the other conditions. The boys were read the item again, and then asked to respond "yes" or "no" to whether or not they, "another boy (their) age," or "any other person (they) knew" could have made the event turn out differently. The boys had a reference copy of the instrument during both the CDI and BAS. The boys marked their own responses on the CDI, and indicated their response on the BAS to the examiner who scored it on his copy.

The TAT cards were administered last with the child receiving these instructions, "I have some pictures here I am going to show you, and for each picture I want you to make up a story. Tell me what happened before and what is happening now. Say what the people are thinking and feeling and how it will come out. Make up any kind of story you like" (Murray, 1971, p. 4). Following the administration of the first five cards, card 16 was introduced with, "Here is a blank

card. What I would like to have you do is imagine a picture and tell me a story just as on the previous cards. You may look at the card, you may look at the wall, or close your eyes, and just make up a story. When you are ready, first describe the scene to me and then tell me your story." The researcher recorded the subject's stories.

The TAT stories were rated on three 7-point Likert scales which evaluated the affect of the characters in the story (sad-euphoric), the theme of the story (nondepressive-depressive), and the outcome of the story (nondepressive-depressive). The TAT Depression score was derived by summing these three scores.

The research assistant administered the CBCL to the mother with the following instructions, "For each item that describes your child now or within the past 12 months please circle 2 if the item is very true or often true of your child. Circle the 1 if the item is somewhat or sometimes true of your child. If the item is not true of your child, circle the 0" (Achenbach, Note 10, p. 3). In addition to this information about the frequency of each item, the research assistant asked more specific questions about the length of time key depression items had been present when the mother gave a 1 or 2 response. The research assistant administered the BDI to the mother after the CBCL was completed. After the completion of these two instruments, the research assistant debriefed the mother on the purposes and objectives of the study. The researcher and child rejoined the mother and research assistant at the end of the interviews and answered any additional questions.



The data was coded and analyzed using the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). The data from the CBCL was scored using a computer program developed at the National Institutes of Health (Achenbach, Note 10). This program computed T-scores for each of the nine behavior problem scales (narrow band factors) based on the norms developed from the CBCL's completed by 1,300 randomly selected parents of normal children. In addition, T-scores were also calculated for the Internalizing and Externalizing scales (broad band factors) and the sum of the behavior problems. Edelbrock and Achenbach (1980) in a recent study changed the type of cluster analyses they were employing to develop profile types from Q-correlations to intraclass correlations (ICC). They found that the latter technique provided greater differentiation among the profile types, while retaining the majority of profile types found using the Q correlations (Edelbrock & Achenbach, Note 1). These profile types were derived from T-scores based on the CBCLs filled out by the parents of 1,050 boys aged 6-11 who were referred to mental health facilities. Note that the T-scores used in the behavior problem scales were based on the normative sample and the T-scores used to develop and calculate the profiles were based on a clinical sample. While, "their distribution parameters differ, scores standardized on referral children are almost perfectly colinear with scores standardized on normal children" (Edelbrock & Achenbach, 1980, p. 446). The clinic T-scores on the nine behavior scales for each boy were compared to the centroids of the behavior scales

on each of the six profile types of 6-11 year old boys (Edelbrock & Achenbach, 1980). An ICC was obtained for each profile type by calculating the proportion of variance shared by the profile type and the boy's own profile.

Since a priori predictions were made about the direction of most of the statistical analyses, the probability values reported were primarily based on one-tailed tests. When a two-tailed test was employed, the notation "two-tailed" was made following the probability value.

## RESULTS

The concurrent validity of the CDI (self-rating) and the CBCL, D scale (parent-ratings) were evaluated by comparing the child's scores on these two measures as well as these scores with the TAT, Depression (D) scale (clinician-rating). The CDI had a small positive correlation with the CBCL, D scale,  $r(45)=.13$ , that was not significant and a larger correlation,  $r(45)=.34$ , with the TAT, D scale that was significant,  $p < .02$ . The TAT, D score also showed a significant positive correlation with the CBCL, D score,  $r(45)=.33$ ,  $p < .02$ . Hypothesis 1 which predicted significant positive correlations between these three measures, received some support, but the parent and child ratings failed to reach significance (see Table 5). The internal consistency of the CDI was examined by correlating scores on the individual items with the total score on the scale. The instrument was found to have a reasonably good internal consistency with the correlations ranging from  $r(45)=.25$  to  $.65$  which were significant at the  $p < .025$  level for all but 1 of the 27 items (see Table 6).

Hypothesis 2 predicted that the profile Depressed-Social Withdrawal-Aggressive (D-SW-AGG) on the CBCL would be frequently found among the depressed boys in this study. This hypothesis was not supported with 11 of the 12 Moderately and Severely Depressed boys (grouped according to CDI scores) having negative intraclass correlations (ICC) for the

TABLE 5

## CORRELATION MATRIX FOR MEASURES OF BOYS' AND MOTHERS' DEPRESSION

	<u>Variables</u> <sup>a</sup>			
	<u>CDI</u>	<u>CBCL</u>	<u>TAT</u>	<u>BDI</u>
<u>CDI</u>	1.00	.13	.34**	.38***
<u>CBCL</u>	.13	1.00	.33**	.49****
<u>TAT</u>	.34**	.33**	1.00	.29*
<u>BDI</u>	.38***	.49****	.29*	1.00

<sup>a</sup>The measures used were the Child Depression Inventory (CDI), the Child Behavior Checklist, Depression scale (CBCL), the Thematic Apperception Test, Depression scale (TAT) and the Beck Depression Inventory (BDI). The sample size for each correlation was 45.

\*p < .050.  
 \*\*p < .025.  
 \*\*\*p < .010.  
 \*\*\*\*p < .001.

TABLE 6

## TEST OF THE INTERNAL CONSISTENCY OF THE CHILD DEPRESSION INVENTORY

	<u>Response</u> <sup>a</sup>	<u>Pearson's R</u> <sup>b</sup>
1.	I am sad all the time.	.42**
2.	Nothing will ever work out for me.	.34*
3.	I do everything wrong.	.54***
4.	Nothing is fun at all.	.32*
5.	I am bad all the time.	.55***
6.	I am sure that terrible things will happen to me.	.22
7.	I hate myself.	.57***
8.	All bad things are my fault.	.46**
9.	I want to kill myself.	.43**
10.	I feel like crying everyday.	.32*
11.	Things bother me all the time.	.43**
12.	I do not want to be with people at all.	.35**
13.	I cannot make up my mind about things.	.49***
14.	I look ugly.	.41**
15.	I have to push myself all the time to do my school work.	.58***
16.	I have trouble sleeping every night.	.40**
17.	I am tired all the time.	.65***
18.	Most days I do not feel like eating.	.30*
19.	I worry about aches and pains all the time.	.40**
20.	I feel alone all the time.	.64***
21.	I never have fun at school.	.53***

<u>Response</u>	<u>Pearson's R</u>
22. I do not have any friends.	.45**
23. I do very badly in subjects I used to be good in.	.58***
24. I can never be as good as other kids.	.62***
25. Nobody really loves me.	.44**
26. I never do what I am told.	.64***
27. I get into fights all the time.	.57***

<sup>a</sup>The items listed are 2-point (clinically significant symptom) responses.

<sup>b</sup>The correlations of the individual items with the total CDI score are given, and were calculated with a sample size of 45.

\*p < .025.  
\*\*p < .010.  
\*\*\*p < .001.

D-SW-AGG profile type. One boy had his highest ICC on the D-SW-AGG profile (he was tied with another boy for rank 11 on the CDI but it was a relatively poor fit ( $ICC=.15$ ). In contrast, the Somatic profile type was found most often in the Moderately and Severely Depressed group. Four boys in this group had the Somatic profile type with ICCs of .43 to .81. There were two boys displaying a Delinquent profile, and the Schizoid-Withdrawal, Schizoid, and Hyperactive profiles were each represented by one boy in the Moderately and Severely Depressed group (see Table 7).

Hypothesis 3 predicted that there would be significant positive correlations between the mother's self-rating of depression (BDI) and their ratings of their children's depression (CBCL, D scale) and behavior problems (T-score for sum of behavioral problems). This hypothesis was supported with the BDI showing very significant positive correlations with the CBCL, D scale,  $r(45)=.49$ ,  $p < .001$ , and with the CBCL Behavior Problem scale,  $r(45)=.52$ ,  $p < .001$ .

A closer examination of the suicidal ideation item was undertaken. A crosstabulation was done with four levels of depression (based on CDI scores). The Severely depressed group all displayed suicidal ideation with only one boy giving the 2-point response, "I want to kill myself," in this group. The 1-point response, "I think about killing myself, but I would not do it," was made by 57% of the Moderately depressed group, 40% of the Mildly Depressed group, and 30% of the Nondepressed group,  $\chi^2(6)=13.8$ ,  $p < .04$ . The suicidal ideation (present or absent) variable was further analyzed with crosstabulations and T-tests and the independent variables marital status, birth order, and treatment (patient

TABLE 7  
CHILD BEHAVIOR CHECKLIST DATA FOR  
MODERATELY AND SEVERELY DEPRESSED BOYS

CDI <sup>c</sup>	Age <sup>d</sup>	Profile Type <sup>a</sup>		Sum BP <sup>e</sup>	Int-Ext	Soc. Competence <sup>b</sup>		
		Profile	ICC			Act	Soc	Sch
30	9	-	--	144	64 < 86	33	18	37
29	11	E	.03	46	65 < 68	44	46	29
27	9	-	--	35	54 < 60	44	48	45
23	8	F	.71	85	69 < 82	33	34	39
19	10	D	.81	53	69 > 61	38	51	45
16	9	D	.43	27	59 > 52	40	29	43
15	11	F	.92	72	64 < 80	56	32	29
14	8	D	.44	35	65 > 56	65	51	29
14	10	A	.19	53	67 > 65	53	60	37
14	7	D	.69	44	67 > 60	29	36	45
13	11	C	.75	59	70 > 67	44	42	37
13	9	B	.15	74	71 < 78	44	32	45

<sup>a</sup>The profile types were: A) Schizoid-Social Withdrawal, B) Depressed-Social Withdrawal-Aggressive, C) Schizoid, D) Somatic Complaints, E) Hyperactive, and F) Delinquent. The boys' profile type that had the highest intraclass correlation (ICC) is given, except for two boys who had negative ICCs with all the profile types.

<sup>b</sup>The Social Competency scales represent adapted behaviors and the boys' T-scores based on the nonclinical standardization sample are given.

<sup>c</sup>The boys' total Child Depression Inventory (CDI) score is given.

<sup>d</sup>The boys' age in years is listed.

<sup>e</sup>The T-scores for the Sum of the Behavior Problems (Sum BP), Internalizing (Int), and Externalizing (Ext) scales are presented with the relationship between the latter two scales indicated.



or nonpatient). The suicidal ideation item had three possible responses, so the measure obtained was a rating of the severity of the symptom rather than its presence or absence. Since there were potentially more than two response alternatives, the data for this variable were analyzed using t-tests when comparisons were made between two groups. Suicidal ideation was displayed by 67% of the boys living with separated parents, 50% of the boys living with divorced parents and 39% of the boys living with both parents, however the chi-square and t-tests (intact family versus single parents) were not significant. Suicidal ideation was present in 53% of the patients and 33% of the nonpatients, t-test was not significant. An examination of the birth order showed that suicidal ideation was present in 67% of the oldest children (N=15), 41% of the children who were middle or youngest (N=22), and 25% of the children who were an only child. The chi-square was not significant, but a t-test of the oldest child versus other birth order positions was significant,  $t(43)=1.94$ ,  $p < .03$ .

The type of treatment the boys in this study were receiving was examined (four level of depression based on the CDI). Four of the five boys in the Severely Depressed group were or had been in individual treatment with the fifth boy enrolled in the therapeutic day school (TDS) which includes a self-contained classroom for emotionally disturbed children with group and activity therapy incorporated into the curriculum. In addition, three of the four children seen individually were also seen in another modality with two in group and one in family therapy. Six of the seven Moderately Depressed boys were in treatment

with two receiving individual therapy, three in group therapy, and one in the TDS program. There was only one child in this group who received additional treatment (group). The Mildly Depressed group had nine boys in individual therapy (60%) with three of them also being seen in group therapy, and two boys were receiving only group therapy. The boys in the Nondepressed group who were in treatment were divided between individual (22%) and group therapy (17%) with one boy seen for an additional family session. The mothers reported that only 13% of the boys in the sample were taking medication regularly. There were three boys receiving medication for hyperactivity, two for seizures, and one for allergy. The chi square test of the types of medication used by the four groups of boys was not significant.

The mothers' self-ratings of depression (BDI) were found to have a significant positive correlation with the boy's self-rating of depression (CDI),  $r(45) = .38$ ,  $p < .01$ , which supports hypothesis 4. The BDI was also found to be positively correlated with the TAT D scale,  $r(45) = .29$ ,  $p < .03$ , and as noted above with the CBCL, D scale (see Table 5).

There were three types of symptoms on the BDI (7 of 21 items) that were found to have significant positive correlations with the total score on the CDI: dysphoric affect, self-deprecatory ideation (feels guilty, expects to be punished, and disgusted with self), and somatic complaints (tired, sleep disturbance, and loss of appetite). These items and their correlations with the CDI are shown in Table 8.

The relationship between the child's depression and his birth order was examined with hypothesis 5 predicting that oldest sons

TABLE 8

CORRELATIONS OF SELECTED INDIVIDUAL BECK DEPRESSION INVENTORY ITEMS  
WITH CHILD DEPRESSION INVENTORY SCORES

<u>Response</u> <sup>a</sup>	<u>Pearson's R</u> <sup>b</sup>
1. I am so sad or unhappy that I can't stand it.	.25*
5. I feel guilty all of the time.	.39***
6. I feel I am being punished.	.55****
7. I hate myself.	.28*
16. I wake up several hours earlier than I used to and cannot get back to sleep.	.36***
17. I am too tired to do anything.	.31**
18. I have no appetite at all anymore.	.33**
19. I have lost more than 15 pounds.	.27*

<sup>a</sup>The items listed are 3-point responses with the scale ranging from 0-3.

<sup>b</sup>The correlations of the individual BDI items with the total CDI score are given, and there were 45 subjects in the sample.

\* $p < .050$ .  
 \*\* $p < .025$ .  
 \*\*\* $p < .010$ .  
 \*\*\*\* $p < .001$ .

would be more depressed than other birth order positions. This hypothesis was supported with  $t(43)=1.73$ ,  $p < .05$ .

The marital status of the parents was examined to determine if depressed boys more frequently lived with one parent (hypothesis 6). This group was more depressed with a mean CDI of 11.1 in contrast to a mean of 9.0 for boys living with both parents, however the  $t$ -test was not significant. A similar comparison of the mothers' self-ratings of depression showed a much stronger difference with the single parent mothers having a mean BDI score of 11.9 in comparison to the mothers living with a spouse who had a mean BDI of only 4.2,  $t(43)=3.98$ ,  $p < .001$ , two-tailed. A crosstabulation was done with four levels of depression on the CDI and three types of marital status (intact families, separated parents, and divorced parents). Moderate and severe depression was present in 67% of the boys whose parents were separated, 22% of the boys who were living with both parents, and 19% of the boys who were living with divorced mothers, however the chi square was not found to be significant,  $\chi^2(6)=6.08$ .

The learned helplessness model of depression depicts individuals as feeling unable to influence their environment, so an external locus of control was predicted for the depressed subjects (hypothesis 7). This study found support for this hypothesis with a significant positive correlation between the CDI and the Externality scale on the CBCL,  $r(45)=.34$ ,  $p < .02$ . While the CDI was not significantly correlated with the D scale on the CBCL, it was found to have significant correlations with six of the other eight behavior problem scales as well as the Total

TABLE 9

CORRELATIONS OF THE CHILD DEPRESSION INVENTORY WITH  
CHILD BEHAVIOR CHECKLIST T-SCORES

<u>Scales</u>	<u>Pearson's R<sup>a</sup></u>
Internalizing	.24
Externalizing	.35***
Schizoid	.13
Depressed	.13
Uncommunicate	.27*
Obsessive-Compulsive	.37***
Somatic Complaints	.04
Withdrawn	.37***
Hyperactive	.38***
Aggressive	.28*
Delinquent	.28*
Sum of Behavior Problems	.34**

<sup>a</sup>The T-scores from the CBCL scales were correlated with the total score on the CDI, and there were 45 subjects in the sample.

\* $p < .050$ .

\*\* $p < .025$ .

\*\*\* $p < .010$ .

Behavior Problem Scale (see Table 9). A corollary of the learned helplessness model suggested by Rholes et al. (1980), was that due to their attributional styles younger children would be less susceptible to depression. The sample was divided into three age groups, but clustering in the center of the age range made it difficult to form three equal groups. The groups were: 6 years 7 months to 8 years 11 months (N=16), 9 years to 10 years (N=14), and 10 years 2 months to 12 years (N=15).

The three developmental levels were the independent measures and the CDI was the dependent measure in a one-way ANOVA test for trends which was found to be significant,  $F(2,42)=4.89$ ,  $p < .04$ , with the oldest children displaying the greatest amount of depression as predicted.

Kendall et al. (Note 7) observed that younger children made more internal attributions to positive events and external attributions to negative events than older children. The attributions made by children in these three age groups to the BAS were examined. The Positive Controllable events showed a nonsignificant curvilinear relationship with the middle age group displaying the most internal attributions followed by the youngest then, the oldest age group. The Positive Uncontrollable, Negative Controllable, and Negative Uncontrollable scales all showed trends in the predicted directions, however none of them were significant. Taken together these findings are generally consistent with Kendall et al.'s study, but the magnitude of the differences found here were not large enough to reach significance with this sample size.

The age distribution of the treatment variable (patient or nonpatient) was examined to ascertain if a sampling bias could explain these findings. A chi-square was done with the sample divided according to age in years (six levels) and there was no significant difference found between the age of the patients and nonpatients in this study,  $\chi^2(5)=6.00$ .

The attributions made by the three groups, Nondepressed, Mildly Depressed, and Moderately and Severely Depressed, to the BAS were examined. Hypothesis 9 predicted that depressed boys would make more external attributions to Positive Controllable, Positive Uncontrollable, and Positive Pooled (the first two groups were combined) events than nondepressed boys. The mean scores for the three levels of depression showed a linear trend with the depressed boys making the most external responses on all three of these measures; however, both the one-way analyses of variance and the tests for trends failed to reach significance (see Table 10). Crosstabulations were performed between the individual items on the BAS and four levels of depression as measured by the CDI, Nondepressed, Mildly Depressed, Moderately Depressed, and Severely Depressed. The only item that showed a significant chi square among the twelve Positive items was, "You got all your homework done on time this week,"  $\chi^2(3)=13.3$ ,  $p < .005$ , with 60% of the Severely Depressed, 71% of the Moderately Depressed, 27% of the Mildly Depressed, and 6% of the Nondepressed boys replying, "This was because the teacher did not give very much homework." The depressed boys making more external attributions to this Positive Controlled item provides some support for hypothesis 9.

TABLE 10

THE RESPONSES GIVEN TO FOUR SUBSCALES  
OF THE BOY'S ATTRIBUTION SCALE

<u>Positive Controlled</u> <sup>a</sup>	<u>CDI</u> <sup>b</sup>	<u>CBCL</u>
Moderately and Severely depressed	1.83	.85
Mildly depressed	1.27	1.33
Nondepressed	1.17	1.93
Total	1.38	1.38
<u>Positive Uncontrolled</u>		
Moderately and Severely depressed	4.08	4.00
Mildly depressed	3.80	3.72
Nondepressed	3.78	3.93
Total	3.87	3.87
<u>Negative Controlled</u>		
Moderately and Severely depressed	2.75	2.08
Mildly depressed	2.07	2.22
Nondepressed	1.94	2.29
Total	2.20	2.20
<u>Negative Uncontrolled</u>		
Moderately and Severely depressed	3.83*	4.92
Mildly depressed	4.40	4.22
Nondepressed	4.94	4.36
Total	4.47	4.47

<sup>a</sup> Each subscale contains six items with a 0-point response reflecting an internal attribution and a 1-point response an external attribution, so lower scores represent internalizing responses.

<sup>b</sup> The mean scores for each subscale are given for three levels of depression based on the Child Depression Inventory (CDI) and the Child Behavior Checklist, D scale (CBCL).

\*One-way ANOVA was significant for the Negative Uncontrollable Scale,  $F(2,42)=3.62$ ,  $p < .04$ , with a significant linear trend in the expected direction (depresses making more internal attributions)  $F(2,42)=7.15$ ,  $p < .02$ , both tests were one-tailed.



The Negative Controlled events were expected to attract similar attributions from both the depressed and nondepressed boys. There were no significant results found with the one-way ANOVA for the Negative Controllable scale or items. These results are consistent with the predictions.

The paradoxical position of depressed boys making internal attributions to negative uncontrollable events was investigated (hypothesis 10). This hypothesis received support with a significant one-way ANOVA found for the Negative Uncontrolled scale,  $F(2,42)=3.62$ ,  $p < .04$ , and a significant linear trend in the expected direction (depressives making more internal attributions) was also observed,  $F(2,42)=7.15$ ,  $p < .02$ . The individual items were examined (four levels of depression) and the response to the item, "Your family went to the beach and it rained the whole time," was found to be significantly different between the four groups,  $\chi^2(3)=10.69$ ,  $p < .02$ . The response, "This was because you never have nice vacations," was endorsed by 60% of the Severely Depressed, 29% of the Moderately Depressed, 7% of the Mildly Depressed, and 6% of the Nondepressed boys.

The boys' perceptions of their ability to control the Negative Uncontrollable items was investigated with the BAS Supplement. A comparison was done between responses indicating the boy could not influence the event, but someone else could have (personal helplessness), and all other types of responses. Hypothesis 11 predicted that depressed boys would make more responses reflecting personal helplessness than nondepressed boys. There was a linear trend in the direction predicted

by this hypothesis with the Moderately and Severely Depressed boys averaging 1.67, the Moderately Depressed boys 1.47, and the Nondepressed boys 1.11 personal helplessness responses on the six items; however, this trend did not reach significance. An examination of the ten individual items in the BAS (four were buffer items from the other subscales) showed that four of the six Negative Uncontrollable items had means for the three levels of depression that showed trends in the expected direction. Two of these items, "You were riding your bicycle and the tire went flat," and "You worked real hard on an art project for school and the teacher gave you a bad grade," had significant linear trends with  $F(2,42)=4.36$ ,  $p < .05$  and  $F(2,42)=5.94$ ,  $p < .02$ , respectively. In addition, the Negative Controlled buffer item, "You lost your skateboard at the shopping center," had a significant linear trend,  $F(2,42)=5.94$ ,  $p < .02$ , with the Severely and Moderately Depressed boys making the largest number of personal helplessness responses, the Mildly Depressed boys making a few, and the Nondepressed boys not making any.

A second set of one-way ANOVAs and test for trends was performed on the BAS subscales using the CBCL, D scale to create three groups based on the severity of depression. The Positive Uncontrollable, Negative Controllable, and the Negative Uncontrollable scales all failed to show significant between groups differences or significant trends. The Positive Controllable group however, had a linear trend,  $F(2,42)=5.30$ ,  $p < .053$ , that approached significance with a two-tailed test. A two-tailed test was required because the

trend was not in the predicted direction (the depressed subject's attributions were the most internal) and it should be noted the trend was opposite that found for the same scale with the CDI as the independent measure (see Table 10). Since these tests failed to reach significance, no additional analyses were performed with the CBCL, D scale groupings.

## DISCUSSION

The CDI and CBCL, D scale received some concurrent validation by having significant positive correlations with the TAT, D scale. However, the CDI and CBCL, D scale were not significantly correlated with each other. This is in contrast to Leon et al.'s (1980) study where an earlier version of the CDI was found to have a significant positive correlation with another parent-rating instrument, PIC, D scale. A possible reason for the differences observed here between child and parent-ratings is provided by the results obtained in this study that replicated Griest et al.'s (1979) findings of depressed mothers rating their children as displaying more behavior problems than nondepressed mothers. These findings suggest that CBCLs completed by depressed mothers may not be reliable measures of the child's behavior. An alternative hypothesis is that the correlation between maternal depression and the child's behavior problems represents high "family pathology," however Griest et al. found that the mother's depression was a better predictor of their rating of their children's behavior than independent observer ratings of the child's behavior. This latter finding, suggests that depressed mothers have a lower tolerance for their children's disruptive behavior and therefore tend to overreport behavior problems.

Another factor that needs to be considered in comparing ratings obtained with the CDI and CBCL, D scale is that the former records the

child's self-ratings based on his behavior during the last week, while the latter measures the child's behavior during the last year.

Kovacs and Beck (1978) have postulated that depressed patients may have chronically atypical cognitive processes which may represent a stable personality characteristic. However, they also view these atypical cognitive processes as amenable to change which is lent some support by the findings (Brumback, Staton, & Wilson, 1980; Ossosky, 1974) that depressed children's cognitive functioning improves following treatment with imipramine. The hypothesis that the maladaptive cognitive style of depressives changes with the child's clinical status would suggest that a self-rating of depression would be more sensitive to temporal changes in the subject's clinical status than the CBCL which relies on parent-ratings based on an extended observation period. Since two-thirds of the sample were or had been in active treatment programs, it is understandable that the CDI's measurement of recent behavior would have only a small correlation with the CBCL's measure of the boy's behavior during the past year.

The finding that the TAT, D scale was correlated significantly with the child and parent-ratings, while these two measures were not correlated significantly with each other is interesting. The temporal differences in the CDI and the CBCL, D scale coupled with the children's improvement with treatment may provide part of the answer. Cytryn and McKnew (1974) have observed that while children are showing a gradual decrease in their depressive symptomatology, their behavior and

dysphoric mood improves first, followed by disappearance of verbal depressive material, with depressive fantasy material the last to remit. Therefore, the TAT may have classified as depressed boys who were currently depressed or had previously been depressed, while the CDI may have only detected depression in the former group, and the CBCL was probably more sensitive to depression that had been present for some time.

The internal consistency of the CDI was found to be quite good (see Table 6), which further supports the quality of its psychometric properties and its utilization. The item referring to suicidal ideation was examined and found to correlate significantly with the total CDI score, which suggests that depressed boys display more suicidal ideation than nondepressed boys. This finding is consistent with previous reports of suicidal ideation associated with depression in children (Lawler et al., 1963; McIntire & Angle, 1973; Paulson et al., 1978). Previous studies (Leon et al., 1980; Poznanski et al., 1979) left out suicidal ideation when examining nonclinical populations for the presence of depression, so the availability of samples with which to compare base rates is limited. Albert and Beck (1975) however, retained the suicidal ideation item on the BDI when they administered it to 63 parochial school students (57% males and 43% females), aged 11 to 15 years. They found that 35% of the sample acknowledged suicidal ideation which is comparable to the finding in this study of 33% of the nonpatients in this younger sample displaying suicidal ideation. While the suicidal ideation was high among the patients in this

study (53%), it was not significantly different from the high non-patient prevalence rate for this symptom. These findings suggest that contrary to the popular notion that children are oblivious to concepts of mortality and morbidity, they in fact are quite sensitive to issues relating to their own death and many have suicidal thoughts. Weinberg et al. (1973) classified their depressed patients according to severity with the criteria for inclusion in the Severely Depressed category, the presence of suicidal thoughts. The base rate of suicidal ideation, in the nonpatients studied here, clearly suggests that suicidal ideation is not an appropriate pathognomonic indicator for rating the severity of the child's depression. The CBCL item, "Deliberately harms self or attempts suicide," was endorsed by two mothers with the one child in the Severely Depressed group described as "often" displaying this behavior (2-point response) and the other child who was in the Moderately Depressed group was reported as displaying this behavior "sometimes" (1-point response).

While the prevalence of this behavior was too low to reach significance with a chi-square test (four levels of depression), these findings suggest that suicidal behavior rather than ideation would be an appropriate indicator of a more severe depression or psychopathology.

The suicidal ideation item was not found to be present significantly more often in boys living with divorced or separated mothers than in boys living with both parents; however, it was found significantly more often in oldest boys versus other birth order positions.

This latter finding is difficult to interpret, since the suicidal ideation is confounded with the observation that oldest boys are more depressed than other birth order positions.

Hypothesis 2 which predicted that Depressed-Social Withdrawal-Aggressive CBCL profile would be the most frequently observed among the depressed boys in this study, was not supported. Instead, the Somatic Complaints profile (D) was found most often among the Moderately and Severely Depressed boys (see Table 7). While the D profile was found to be the most frequent among the depressed boys, the Somatic Complaints scale was one of the three behavior problem scales that was not significantly correlated with the CDI scores (see Table 9). This highlights the fact that while the names of the profile types reflect their distinguishing high points, "each profile type is defined by its entire pattern and elevation of scores on the (Child Behavior Profile), rather than by its high points alone" (Edlebrock & Achenbach, 1980, p. 452). Some summary data from the CBCLs of the Moderately and Severely Depressed boys is present in Table 7. This table shows that this group tended to represent the top half of the age range (9-11 years) and the boys's Sum of Behavior Problems does not appear to be strongly related to the severity of their depression as defined by the CDI. The Social Competencies scales are inversely related to the Behavior Problem scales, and this group's Social Competence scores are generally below that of the reference group (T-scores less than 50).

An examination of the relationship between the Internalizing (Int) and Externalizing (Ext) scales show an interesting pattern with



the four boys displaying the greatest depression all being externalizers (Int  $\leftarrow$  Ext), while six of the eight boys in the lower section of the Moderately and Severely Depressed group were internalizers (Int  $\rightarrow$  Ext). This trend was further substantiated with a significant correlation found between the CDI and the Externality scale on the CBCL using the whole sample. These findings of the more depressed boys displaying an external locus of control replicates similar observations in previous studies (Moyal, 1977; Lefkowitz et al., Note 8) and supports the learned helplessness model of depression.

The Severely depressed boys in this study were reported as being primarily in individual therapy with many of them in intensive treatment programs which included other treatment modalities as well. This approach is consistent with the treatment regimen reported elsewhere for Severely depressed boys (see Treatment section). None of the boys in this study were receiving antidepressant medication.

The mother's self-ratings of depression were found to be significantly correlated with all three measures of the boys' depression (see Table 5). These findings of the maternal and child depression being related were made with the child as the proband instead of the parent and they support and extend the observation of a familial pattern of depression reported by others (McKnew et al., 1979; Welner, Welner, McCrary, & Leonard, 1977; Cytryn et al., Note 3). The psychodynamic (loss of maternal attention), environmental, and genetic models of childhood depression are all supported by these findings. The mothers' responses to the items, "I feel guilty all the time" and "I feel

"I am being punished" had highly significant correlations with the boys' scores on the CDI. These findings suggest that the child's displaying depressive behavior may engender feelings of guilt in the mother's as they observe their son's distress as well as feelings of persecution because they have to tolerate their son's anger and acting-out behavior which are prominent features of the child depression syndrome (Kerman, 1980).

The boys who occupied the first born position in their families with other siblings present were found to be more depressed than boys in other birth order positions. Parents usually reduce their involvement with the oldest child when new siblings are born, and this decreased involvement may be experienced as a loss (Katz, 1977; McKnew & Cytryn, 1973) and predispose the child to a depressive reaction. The eldest child is sometimes given excessive amounts of responsibility in single parent families where even 4 year old boys may be called, "The man of the house." This process prohibits the boy from engaging in appropriate developmental activities and may also make him susceptible to a depressive reaction.

Boys living with one parent were observed to be slightly more depressed than boys living with two parents, although the difference was not found to be significant. The recency of the marital separation appears to be of import with Moderate and Severe depression present in two-thirds of the boys whose parents were separated, while there were fewer boys with divorced mothers in this group than boys living with two parents. This finding suggests that marital discord and recent loss of a parent may be precipitants to a depressive reaction, rather than the

extended absence of a parent. The mother's who were divorced or separated were significantly more depressed than the mothers who were living with spouses. While the boy may find substitute parental figures to replace the absent parent, he may still be indirectly effected by the separation or divorce through the mother's depression.

The prevalence of depression among the boys in this study showed a developmental trend with the older boys displaying the greatest depression. The CDI was originally developed with a sample population of 9 to 15 year old children (Kovacs & Beck, 1977) and several studies have reported developmental differences in the expression of depressive symptoms among children aged 5 to 13 (McConville et al., 1973; Murray, 1970; Ushakov & Girich, 1971) which suggests that an artifact of the CDI (its language and sensitivity to a depressive syndrome and characteristic of older children) may account for the observed developmental difference. This alternative hypothesis aside, the observation that older children are more depressed is consistent with the hypothesis that younger children's attributional style makes them less prone to developing learned helplessness and the depression that accompanies it (Rholes et al., 1980). It should also be noted that this developmental difference was not found to be due to a developmental sampling bias between the patient and nonpatient groups.

Both the learned helplessness and cognitive models of depression would make similar predictions regarding the attributions made by depressives to positive and negative events that varied as to their controllability. The positive controllable and positive uncontrollable

scales did not show significant differences in the expected direction (depressives making more external attributions) with levels of depression defined by the CDI. This is consistent with Leon et al.'s (1980) failure to find significant differences between depressed and nondepressed children's attributions to positive events with an earlier version of the CDI used to define their groups. The present study did find a significant chi-square for one of the items in the Positive Controlled scale with the depressives making more external attributions. This finding is consistent with Moyal's (1977) observation that helpless and externalizing responses were associated with childhood depression and lends limited support to the hypothesis that depressed children make external attributions to positive events as predicted by the learned helplessness and cognitive models of depression.

Leon et al. (1980) did a second analysis of their data with the parent-ratings of the child's depression (PIC, D scale) used to define their depressed and nondepressed group. This analysis found the depressed children making more external attributions to positive events than the nondepressed children. A similar second analysis was performed in this study with the parent-rating (CBCL, D scale) used to create the groups; however, the trend which approached but did not obtain significance with a two-tailed test was in the opposite direction observed by Leon et al. and in this study with the CDI grouping. It is difficult to reconcile these observed differences except it should be noted that the CBCL relies on more longitudinal observations (one year), while the CDI uses more recent data which would make it a better instrument for the

study of cognitive changes associated with depression.

Abramson and Sackeim (1977) described the paradoxical position of depressives simultaneously feeling helpless and responsible for the same event. Two recent studies found evidence of the existence of this paradox in nonclinical undergraduate populations (Garber & Hollon, 1980; Peterson, 1979). The observation made in this study that depressed boys make more internal attributions to Negative Uncontrollable events supports the findings made in these two studies and demonstrates the existence of this paradoxical situation in a child clinical population.

A partial resolution of this paradox proposed by Abramson and Sackeim (1977) was that depressives feel that an event may be controllable; however, they personally lack the necessary skills or ability to reliably control the event (personal helplessness). The boy's perceptions of their ability to control 10 of the items on the BAS was examined, and while a significant trend was not found with the Negative Uncontrollable scale tested collectively, three of the eight negative items examined individually (two Negative Uncontrollable and one Negative Controllable) showed the depressed boys significantly more often displaying personal helplessness than the nondepressed boys. This supports and extends the finding of personal helplessness among depressed college students found in Garber and Hollon's (1980) study and the use of the personal helplessness construct in explaining the helplessness and self-blame paradox.

The results of this study provided some support for the psychodynamic, environmental, genetic, cognitive, and learned helplessness models of childhood depression. While this study did not place any of

these models in opposition, it was directed primarily towards investigating the cognitive and learned helplessness models. The findings of Externality among the depressed children, older boys being more depressed, external attributions to a Positive Controllable event, internal attributions to a group of Negative Uncontrollable events, and depressed boys perceiving themselves as personally helpless lend considerable support to the use of these models.

Beck has developed and refined a Cognitive Therapy technique for treating depression (Beck et al., 1979). Kovacs (1980) recently reviewed studies evaluating the effectiveness of this treatment with depressed adults and concluded that:

1) structured, time limited, and directive interventions that seek to teach cognitive and behavior skills are beneficial in the treatment of nonpsychotic, nonbipolar outpatients, suffering from moderate to severe disorders, and 2) for such ambulatory patients, these cognitive and social skills interventions may even exceed pharmacotherapy in both symptom reduction and treatment completion rate (p. 1499).

Depressed children have many of the characteristics mentioned by Kovacs including an absence of psychosis, generally unipolar affective disorders, and are seen predominately in outpatient settings.

The application of Cognitive Behavior Therapy to childhood depression has not attracted much attention; however, Cognitive Behavior Therapies have been tested on a variety of other children's problems including impulsivity, aggressive behavior, hyperactivity, social isolation, and inappropriate classroom behavior. Hobbs, Moguin, Tyroler, and Lahey (1980) reviewed the use of Cognitive Behavior Therapy with children experiencing these problems and concluded that while some cases of dramatic improvement in problem behaviors had been demonstrated, the

studies reviewed had too many methodological problems to allow them to make a conclusive evaluation of the technique's effectiveness. The findings in this study that lend support to a cognitive model of depression coupled with Kovac's (1980) report of the therapeutic efficacy of Cognitive Behavior Therapy in treating adult depressives, strongly argues for the testing of these treatment methods with a prepubertal depressive population.

## SUMMARY

The applicability of the cognitive and learned helplessness models of depression to prepubertal boys was investigated. The subjects for this study were 45 boys 6-11 years of age and their mothers. Two-thirds of the sample were or had been receiving outpatient treatment for emotional problems, and one-third were nonpatients.

The Child Depression Inventory (CDI) was utilized to divide the sample into groups based on the severity of their depression. The concurrent validity of this instrument was supported with the finding of a significant positive correlation with a rating of depression based on Thematic Apperception Test responses. The CDI was also found to have an acceptable internal consistency.

The mothers' self-ratings of depression were observed to be significantly correlated with three measures of their son's depression, and boys who were the oldest were found to display more depression than boys in other birth order positions. These findings were discussed in relation to different theories of the etiology of childhood depression.

The depressed boys in this study were observed to make internal attributions to negative uncontrollable events. This finding supports the existence of a paradox of self-blame and helplessness in a child clinical population. A partial explanation of this paradox is offered by the hypothesis that depressives view events as controllable, but



personally lack the ability to influence them (personal helplessness)  
Depressed boys in this study perceived themselves as personally help-  
less when faced with negative tasks which supports this hypothesis  
These findings were interpreted as generally consistent with the  
cognitive and learned helplessness models of depression.

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**APPENDIX A**

APPENDIX A

BOY'S ATTRIBUTION SCALE

I would like to read you some make believe stories. You can read them to yourself, while I read them aloud. I want you to pretend that they are happening to you. Following each story, there are two reasons given why the story happened the way it did. I want you to tell me which reason explains the story best for you.

1. You were playing in a baseball game and hit a home run. This was because:
  - a. you are a good athlete.
  - b. the other team had a lousy pitcher. (Positive Controllable)
2. You flunked a spelling test in school. This was because:
  - a. the words were hard and the whole class flunked.
  - b. you didn't study. (Negative Controllable)
3. The model airplane you built won a prize in the school fair. This was because:
  - a. you did a real nice job in building it.
  - b. every model plane won a prize. (Positive Controllable)
4. Your favorite toy truck got all rusty outside in the rain. This was because:
  - a. it rains alot where you live.
  - b. you don't take good care of your toys. (Negative Controllable)
5. Your mother brought home your favorite kind of ice cream. She got it because:
  - a. you had been good all day.
  - b. it's her favorite flavor also. (Positive Uncontrollable)
6. Your family went to the beach and it rained the whole time. This was because:
  - a. it often rains at the beach.
  - b. you never have nice vacations. (Negative Uncontrollable)

7. You forgot to bring your art project to school on the day it was supposed to be brought in. This was because:
- you sometimes forget things.
  - your mother forgot to remind you. (Negative Controllable)
8. You learned a difficult trick on the skateboard in just one day. This was because:
- The skateboard you used is really good.
  - you practiced alot. (Positive Controllable)
9. The camping trip you were supposed to go on was called off. This was because:
- you forgot to get your parent to sign a note letting you go.
  - there were not enough adults to go on the trip. (Negative Uncontrollable)
10. You beat your friend in 10 straight games of checkers. This was because:
- it was the first time your friend played checkers.
  - you are very smart. (Positive Controllable)
11. You were riding your bicycle and the tire went flat. This was because:
- you're an unlucky person.
  - they were cheap tires. (Negative Uncontrollable)
12. You have just won a free trip to Disneyland from a radio station. You won the trip because:
- you are always the first one in the house to answer the phone.
  - the radio station picked your family's name out of the phone book. (Positive Uncontrollable)
13. You got all your homework done on time this week. This was because:
- you worked real hard.
  - the teacher did not give you very much homework. (Positive Controllable)
14. While you were walking your dog, another dog came along and started fighting with yours. This was because:
- the other dog picks alot of fights.
  - you are not very good at controlling dogs. (Negative Uncontrollable)
15. You broke your little brother's big wheel while riding it. This was because:
- you are too big to ride it.
  - it wasn't strong enough to hold you. (Negative Controllable)

16. You lost your skateboard at the shopping center. This was because:
- somebody stole it.
  - you forgot where you left it. (Negative Controllable)
17. Your favorite football team won the Super Bowl. This was because:
- they had the best quarterback in the league.
  - you cheered them on all season. (Positive Uncontrollable)
18. You put 25¢ in a candy machine and got no candy and no money back. This was because:
- the machine was broken.
  - you probably put the money in wrong. (Negative Uncontrollable)
19. You ruined one of your mother's good pots by using it to mix paint in. This happened because:
- sometimes you are not very careful.
  - it didn't look like a good pot. (Negative Controllable)
20. The teacher picked one child's name out of a hat to be the only child in the class to go to a showing of the new Star Wars film and she picked your name. This happened because:
- you usually win prizes.
  - the piece of paper with your name on it was laying on top (Positive Uncontrollable)
21. Your aunt gave you \$10 for your birthday. She gave you the money because:
- she gives \$10 to all her nieces and nephews on their birthdays.
  - she thinks you are nice. (Positive Uncontrollable)
22. You studied hard for a math test in school and got an A. This happened because:
- the test was too easy.
  - you are real smart. (Positive Controllable)
23. You worked real hard on an art project for school and the teacher gave you a bad grade. This happened because:
- you are a crummy artist.
  - the teacher grades too hard. (Negative Uncontrollable)
24. You were walking down the street and found a \$20 bill. This happened because:
- someone else lost the \$20 bill.
  - you are always looking for things to find. (Positive Uncontrollable)



APPROVAL SHEET

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

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

4/20/81  
Date

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