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Adolescent depression : a review of theoretical perspectives and considerations for assessment

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Adolescent depression : a review of theoretical perspectives and considerations for assessment

Abstract

Depression is one of the most common psychological disorders shared by adolescents and adults. Thus, adolescent depression is an important area of investigation for researchers, parents, clinicians, and teachers. The purposes of this literature review are to (1) provide a critical overview of the major depressive disorder criteria for children and adolescents in the current Diagnostic and Statistical Manual of Mental Disorders, fourth edition, (DSM-IV; American Psychiatric Association, 1994), (2) provide an overview of well-articulated major theories that have attempted to explain the cause(s) of depression in adolescents, and (3) evaluate the psychometric adequacy of those self-report measures of adolescent depression that are related to the identified theories.

**Adolescent Depression; A Review of Theoretical Perspectives
and Considerations for Assessment**

**A Research Paper
Submitted
in Partial Fulfillment
of the Requirements for the Degree of
Masters of Arts in Education**

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University of Northern Iowa
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ABSTRACT

Depression is one of the most common psychological disorders shared by adolescents and adults. Thus, adolescent depression is an important area of investigation for researchers, parents, clinicians, and teachers. The purposes of this literature review are to (1) provide a critical overview of the major depressive disorder criteria for children and adolescents in the current Diagnostic and Statistical Manual of Mental Disorders, fourth edition, (DSM-IV; American Psychiatric Association, 1994), (2) provide an overview of two well-articulated major theories that have attempted to explain the cause(s) of depression in adolescents, and (3) evaluate the psychometric adequacy of those self-report measures of adolescent depression that are related to the identified theories.

CHAPTER 1

Introduction

Depression is one of the most common psychological disorders shared by adolescents and adults, in clinical and non-clinical populations. The symptoms of depression are often conceptualized along a continuum where at one end an individual is a little bummed out, and at the other end qualifies for a clinical diagnosis (Maag & Forness, 1991). Depression is also generally considered to be an internalizing disorder (Reynolds & Johnston, 1994) that affects the total functioning of the individual: mood, thought, body, and behavior (American Psychiatric Association, 1994). Some of the major clinical symptoms of depression have previously been listed to include “anhedonia, lowered self-esteem, pathological guilt, social withdrawal, impairments in school performance, fatigue, psychomotor retardation, sleeping and eating disorders, and suicidal ideation or attempts” (Reynolds, 1984, p. 171).

The construct of depression lacks a precise definition and it may frequently be described as a symptom, a syndrome or a disorder. Consequently, depressive symptomatology does not necessarily mean a depressive syndrome. For example, symptomatology may be viewed either as fleeting or as an appropriate response to specific negative life events. A depressive syndrome, on the other hand, is generally a set of specific symptoms that occur together regularly and may not be attributed to coincidence (Kendall, Cantwell, & Kazdin, 1989).

Although depression is a severe psychopathology shared by adolescents and adults, the essential symptoms in adolescents may appear as other forms of psychological or physical distress such as anger, disobedient, and uncooperative. Thus, "irritating" behaviors may mask the serious underlying symptoms of depression (Lamarine, 1995) in youths. As an additional example, students with depressive disorders often do not participate in class discussions and are described as lethargic and having poor concentration, resulting in lowered academic performance; however, these students often remain unnoticed and escape appropriate referral (Cole, 1990; Kovacs & Goldston, 1991). In general, adolescent depression often appears to go unrecognized or misinterpreted as uncooperative, disobedient and/or inappropriate behavior by teachers and parents.

Over the past decade, the prevalence of adolescent depression has been underestimated as a result of the popular belief that adolescence is a normal time for storming, moodiness, and egocentrism. The failure to recognize depressive symptoms in youth may stem from the traditional psychodynamic conceptualization of depression, as well as myths that the youth do not truly experience sadness, or that childhood is a carefree time (Offer & Schonert-Reichl, 1992). These beliefs have precluded meaningful conceptualization, assessment, and management of depression in children and adolescents (Petersen et al., 1993; Stark, 1990).

The prevalence estimates for depression in general school populations range from 1.9 percent (Kashani et al., 1987) to 20% (Reynolds, 1994; Kaslow, Brown, & Mee,

1994). However, depression prevalence rates are most commonly reported between three and five percent when using the Diagnostic Statistical Manual of Mental Disorders criteria (American Academy of Child and Adolescent Psychiatry, 1995; Stark, 1990).

The impact of depression on the individual, significant others, and society can be substantial. For example, a depressed mood can lead to serious consequences, perhaps the most damaging being the tendency to interfere with normal psycho-social development (Lamarine, 1995). The onset of depression during the adolescent years may be a potential precursor to adult depression as well as other major mental disorders (Petersen et al., 1993). Furthermore, the adolescent research literature suggests a direct relationship between depression and other severe problems in adolescence such as suicidal ideation and behaviors (Baker, 1995; deMan, Leduc, & Labreche-Gauthier, 1993; Flanagan & Flanagan 1995; Garland & Zigler, 1993; Lester, 1997; Myers et al., 1991; Rotheram-Borus, Ferns, & Walker, 1996). Research also suggests that severe psychological and medical disorders including anxiety disorders, conduct problems, attention-deficit disorder, eating disorders, and substance-abuse disorders often co-occur with depressive disorders (Reynolds & Johnston, 1994) in both adolescents and children. Michael Faenza, president of the National Mental Health Association recently noted that:

We know that mental health problems in children often lead to school failure, substance abuse, and even suicide. Yet with early recognition and appropriate timely access to care, the majority of these children can be helped. (Depression in children, 1997, p.1)

Thus, adolescent depression is an important area of investigation for researchers, parents,

clinicians, and teachers.

The purposes of this literature review are to (1) provide a critical overview of the major depressive disorder criteria for children and adolescents in the current Diagnostic and Statistical Manual of Mental Disorders, fourth edition, (DSM-IV; American Psychiatric Association, 1994), (2) provide an overview of two well-articulated major theories that have attempted to explain the cause(s) of depression in adolescents, and (3) evaluate the psychometric adequacy of those self-report measures of adolescent depression that are related to the identified theories. Previous literature reviews have examined some of these issues but have failed to address all of them completely. For example, several studies provide a review of the literature addressing theoretical perspectives and commonly used self-report measures; however, these reviews fail to examine the psychometric properties of the measures related to specific well-articulated theories of adolescent depression (Lamarine, 1995; Maag & Forness, 1991; Petersen et al., 1993). Furthermore, although other reviews have examined diagnostic criteria and general test construction issues, they failed to examine the theoretical perspectives which influenced the development of the related measures (Kendall, Cantwell, & Kazdin, 1989; Reynolds, 1984). The nature of adolescent depressive disorders including the prevalence and impact on students requires a comprehensive examination of the literature integrating the self-report measures used for assessment, the psychometric adequacy of these measures, and the theories utilized to develop the measures.

CHAPTER 2

Diagnostic Criteria for Major Depressive Disorder

A major advance in the study of depression has been the development of diagnostic criteria for adults, currently used for adolescents and children as well. Diagnostic categories are the specific criteria that guide the study, classification, and treatment of psychiatric disorders (Sherak, Speier, & Cantwell, 1989). Diagnostic criteria allow for making the distinction between depressive symptoms and depressive syndrome (Angold, 1988). Currently, within the DSM-IV (American Psychiatric Association, 1994), major depressive disorder is listed under the category of the mood disorders which is divided into two sections: (1) major depressive disorder and dysthymic disorder, and (2) bipolar disorders. This section of the review, however, will focus solely on the first category including major depressive disorder and dysthymic disorder.

It was originally thought that adolescent depression could not be identified using the same diagnostic criteria that are utilized for adults. However, while developmental differences may be important, the current consensus among researchers is that adolescent and adult depressive disorders share many of the same primary depressive symptomatology (Angold, 1988; Hammen & Compas, 1994; Lewinsohn, Hyman, Roberts, Seeley, & Andrews, 1993; Kendall, Cantwell, & Kazdin, 1989; Kazdin, 1989; Maag & Forness, 1991; Mitchell, McCauley, Burke, & Moss, 1988; Reynolds, 1984).

Research does however show that some associated features of depression differ in children, adolescents, and adults making it essential to examine the current diagnostic criteria. For example, the association of major depressive disorder with nonverbal behavior, unpopularity, and somatic complaints, appears higher in girls than in boys during adolescence; however this association does not appear during adulthood (Jacobson, Lahey, & Strauss, 1983). Similarly, suicide is relatively rare in children below the age of 12 while suicide ideology is relatively common within that age group (Kendall, Cantwell, & Kazdin, 1989), differing from trends in adults.

The DSM-IV (American Psychiatric Association, 1994) also notes some differences in the nature of the essential symptoms as well as in the duration of symptoms needed to make a diagnosis of major depressive disorder in children and adolescents. Specifically, major depressive disorder is defined in the DSM-IV (APA, 1994) as a mood disorder that is characterized by one or more major depressive episodes with no history of manic or hypomanic episodes. The depressive episode typically lasts for at least two weeks. Although adults may present with either depressed mood or loss of interest in nearly all activities, in children and adolescents, sadness may manifest as an irritable mood. This negative mood must be accompanied by five or more of the following symptoms: weight loss/gain or a decrease/increase in appetite (failure to make expected weight gains in children), insomnia, or hypersomnia, psychomotor agitation or retardation, fatigue, feelings of worthlessness or severe guilt, trouble concentrating, and suicidal ideation. These symptoms must persist for most of the day, nearly every day, for

at least two weeks, and must impair normal or usual functioning. The DSM-IV also specifies that recurrent major depressive disorder may exist if at least two or more major depressive episodes occur, with an interval of two consecutive months in which criteria are not met. While the difference between major depressive disorder and recurrent major depressive disorder may be clinically important and relevant for children and adolescents, the DSM-IV provides no developmental considerations for recurrent major depressive disorder. Further, for adults, dysthymic disorder is currently defined as having a chronically depressed mood much of the time, (most of the day, and most days), for a duration of two years. However, it is noted that in children and adolescents, a depressed mood may be perceived as an irritable mood and must be present for only one year with symptoms not absent for more than two months at a time. Two of the following symptoms must be present as well: increase/decrease in appetite, insomnia/hypersomnia, low energy, low self-esteem, poor concentration/difficulty making decisions, or hopelessness.

In summary, current diagnostic criteria and research agree that the primary symptoms of major depressive disorder in adults and adolescents are generally the same. However, despite research that supports developmental differences in associated symptoms, there remain few developmental considerations in the diagnostic criteria of major depressive disorder or dysthymia. It seems that some of the depressive symptoms can also be considered "normal" for certain age-appropriate responses in children and adolescents. For example, "irritability" to stressful situations may be a perfectly

acceptable age-appropriate response. The current diagnostic criteria for assessing depressive disorders in children and adolescents provide the school psychologist with no information on how to distinguish normal from pathological forms of irritability.

Furthermore, most of the major depressive symptoms can exist or co-occur in other childhood or adolescent disorders such as anxiety disorders, conduct problems, attention-deficit disorder, eating disorders, and substance-abuse disorders (Reynolds & Johnston, 1994). The current diagnostic criteria provides no information for the school psychologist on how to distinguish between these conditions and depressive disorders in the classroom. School psychologists have been forced to become increasingly aware of depressive symptoms and the implications for adolescents in a school setting. While depression is a serious mood disorder that is experienced both by adults and adolescents, there remain specific developmental considerations that are essential for recognition of these disorders in children and adolescents.

Theoretical Perspectives

As research has progressed from simply documenting the existence, prevalence, and impact of depression to identifying those children and adolescents that are affected, it becomes more and more important also to examine specific factors that have been implicated in the development of adolescent depression. Both psychological and biological theories have attempted to explain the complexities of most human behavior. Indeed, although several theoretical perspectives or paradigms have proposed different explanations, assessment strategies, and intervention procedures for adolescent

depression, this review of the literature will examine only the cognitive and behavioral paradigms or theories of adolescent depression. These theoretical perspectives were chosen for review based on the finding and observation that the most commonly used self-report assessment instruments utilized by psychologists were derived from the behavioral and cognitive theories. These instruments will be discussed in the second section of this paper.

The cognitive and behavioral theories are each made up of several separate subtypes. For the purpose of this review, the cognitive theory will be examined by reviewing Beck's negative cognitive triad, as well as the self-control model. Further, the behavioral theory will be reviewed by examining (1) the social skills model for parents, peers and teachers, (2) the problem-solving model, and (3) the learned helplessness and the reformulated attributional models.

Cognitive Theory

Psychiatrist Aaron T. Beck (Beck, 1967) developed the most complete cognitive model of depression based on clinical observations and experimental testing. Beck's model relies on the existence of *schemata*, a psychological filter which affects the perception of experiences (Kaslow et al., 1994). Schemata are influenced by the developmental history of the individual prior to the onset of mental distress. According to this theory, the schemata of a depressed individual are distorted and are negatively skewed (Kovacs & Beck, 1986). Neale, Davison, and Haaga (1996) have summarized Beck's belief about childhood and adolescent distorted beliefs as follows:

According to Beck in childhood and adolescence, depressed individuals acquired dysfunctional beliefs through the loss of a parent, an unrelenting succession of tragedies, the social rejection of peers, the criticisms of teacher, or the depressive attitude of a parent . . . Beck sees depressives as the victims of their own illogical, negative self judgements. (pp. 268-269)

Further, Beck explains that when negative schemata are activated, the *cognitive triad* becomes evident (Beck, Rush, Shaw, & Emery, 1979; Kaslow et al., 1994; Kovacs & Beck, 1986). The cognitive theory specifically implicates three major areas of the individual: negative view of the self, negative view of one's environment, and negative view of the future (Beck, 1979).

The first component of the triad, having a negative view of oneself, hinges on the individual's tendency to think of oneself as "defective, inadequate, diseased, or deprived" (Beck, Rush, Shaw, & Emery, 1979 p. 11). Failures, or unpleasant experiences, are generally attributed to a defect in oneself, resulting in low self esteem and a lowered locus of control (Kaslow et al., 1994).

Greenberg and Pyszczynski (1986) attempted to evaluate the first component to Beck's cognitive triad by attempting to measure the amount of self focus after failure and success on a structured topic in depressed and nondepressed subjects. Participants included 41 (16 male and 25 female) introductory psychology students. The presence and severity of depressive symptoms were assessed with the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Participants with scores between zero and five were classified as nondepressed, and participants with BDI scores of 12 and above were classified as depressed. The participants were randomly assigned

to one of two conditions, the success condition and the failure condition.

Participants were informed that the researchers were interested in evaluating the students' verbal characteristics. Two tasks were presented to each participant. The first task was the Thorndike Anagram Test referred to as a valid assessment tool of verbal intelligence. The second task was called the Exner Sentence completion test, referred to as a measure of personal verbal style. Participants were told that there were no right or wrong answers. However, the instructions on the tasks were quite detailed, stating the average number of correct answers for college students as either 12.1 (success condition) or 14.2 (failure condition). For the success group, the anagram task consisted of 20 easy four-letter anagrams; for the failure group, the task consisted of 9 unsolvable and 11 difficult five-letter anagrams. After completing the tasks, participants were asked to complete a questionnaire reporting their impressions regarding their performance.

Results unexpectedly indicated that both the depressed and nondepressed participants tended to be more self-focused after failure than after success. These results led the researchers to hypothesize that both nondepressed and depressed individuals would focus on themselves after failure on a task as a means of self-regulation. However, it was hypothesized that the nondepressed individuals would then shift the focus away from themselves, while the depressed individuals would continue to focus on themselves after the failure task. The researchers then tested this hypothesis with a similar sample as utilized in the first study. Depression was assessed in the same way.

Participants were told that the study was concerned with the kinds of thoughts

people had when completing different types of tasks. Participants completed the Thorndike Anagram Test with particular emphasis being placed on the validity of the test. The same items and instructions were given with the anagram assignment as in the first experiment. Following this task, the students were asked to read a short story at their own pace.

Before beginning the tasks, the students were asked to jot down their thoughts about the task during a two-minute period. When all the students had completed both tasks, they were asked again to write whatever they were thinking about during the next two minutes. Finally, the students completed a questionnaire concerning their impressions of the experience.

Results indicated that both the depressed and nondepressed groups self-focus after failure. However, it was suggested that the depressed individuals will continue to self-focus after failure over time. Nondepressed individuals, however, did shift to more positive focuses over time. The findings of this study should be replicated with child and adolescent samples.

The findings of the above study illustrate the first component of Beck's cognitive triad. The authors concluded that depressed individuals do self-focus more intently, for a longer period of time, and at a higher level following failure at a structured task. Information regarding school-aged individuals and reactions to failure and success for depressed and nondepressed students might be useful to educators. Another potentially useful area of investigation concerns gender differences and perception of failure.

The second component of the triad relates to the depressed person's tendency to interpret experiences in a negative way. The individual perceives the world as making too many demands and providing too many obstacles. When the individual does not succeed to the fullest, it is perceived as a failure (Beck, Rush, Shaw, & Emery, 1979).

Research has attempted to indirectly examine this component of Beck's cognitive triad by evaluating whether depressed individuals recall negative feedback more or less often than their nondepressed counterparts. Nelson and Craighead (1977) conducted this study with the purpose of examining the recall of positive and negative feedback of depressed and nondepressed individuals. Further, the researchers attempted to evaluate whether depressed individuals self-reinforce less often and self-punish more often than nondepressed individuals.

Participants included 280 introductory psychology students from Pennsylvania University. The presence and severity of depressive symptoms were assessed using the BDI. Scores between zero and five on the BDI were used to categorize individuals as nondepressed. Individuals scoring 10 and above were categorized as depressed. Individuals scoring in the middle did not complete the study. After this initial screening procedure, 70 individuals completed the study with 32 of them classified as nondepressed and 22 as depressed. The participants were then further divided into two sub-groups labeled the reinforcement group and the punishment group. The reinforcement group consisted of 12 depressed participants and 16 non-depressed participants. The punishment group consisted of 12 depressed participants and 16 non-

depressed participants.

This study was conducted in two adjoining rooms, separated by a one-way mirror. Stimuli consisted of 80 sets of three slides. The first slide in each set read "ready" and was shown for two seconds. The second slide read a single nonsense syllable, shown for ½ second. The second slide was intentionally shown out of focus making recognition of the letters nearly impossible. The third slide was a list of choices labeled A through E. Subjects were divided into two groups: (1) the reinforcement group, and (2) the punishment group. Subjects in the reinforcement group were told that they would receive five cents for each correct response given. Subjects in the punishment group were told that they began the experiment with two dollars and that for every incorrect answer they gave, there would be a loss of five cents. However, the rates of reinforcement and punishment were actually controlled by the researchers. Depending on which group the subject was in, the subject was punished or reinforced on either 70% or 30% of the trials.

Results indicated that the depressed individuals recalled less positive and more negative feedback than the nondepressed individuals. As expected, these results were found when the subjects were receiving a high amount of positive reinforcement and a lower rate of punishment. In the second condition, (a high rate of punishment and a low rate of reinforcement), the depressed subjects accurately estimated the amount of negative feedback while the nondepressed subjects underestimated the rate of negative feedback.

This study, although indirect, illustrates Beck's second component of the cognitive triad. Unfortunately, no attempt has been made to replicate the findings in children and adolescents. As predicted, the depressed individuals tended to interpret the world in a more negative way than the nondepressed counterparts.

The final component of the triad relates to the individual's negative view of the future. According to this view, the individual expects to fail and to keep on failing. Long-range goals are hindered by the anticipation of difficulty and hardship.

Research has attempted to examine this component of Beck's cognitive triad by evaluating whether hopelessness (negative view of the future) is related to depression severity scores but not with anxiety ratings. An additional purpose of the study was to evaluate whether the relationship would appear at one point and again at another four weeks later (Alford, Lester, Patel, Buchanan, & Guinta, 1995).

Participants consisted of 156 undergraduates (71 males and 83 females) in an introductory psychology course. Further information regarding the participants was not provided. The Beck Depression Inventory (BDI; Beck et al., 1961) and the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) were administered to all participants twice, separated by a four-week interval. Finally, the Beck's Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974) was administered to all participants at time one.

Results indicated that at time one, hopelessness was found to be related significantly to time one depression scores. Furthermore, time one hopelessness scores

were not correlated significantly to time one anxiety scores. Finally, hierarchical multiple regression analyses found time one hopelessness scores to be related significantly and specifically to depression four weeks later for all participants. This study suggests that hopelessness or a negative view of the future may indeed indicate future depressive symptoms. Further, high levels of hopelessness can help distinguish depression from other psychological disorders.

The authors of this study note that the subjects were not taken from a clinical sample. However, because Beck's cognitive triad was developed to include both normal and clinical populations, results may be equally important to nonclinical researchers. Future investigations should assess the generalizability of these findings to adult clinical populations. Finally, this study should be replicated with a school-aged sample as understanding the student's perception of the future may be useful to educators.

Finally, other investigations have been conducted to evaluate all three components of the cognitive triad. For example, Hammond and Romney (1995) developed a study to assess the adequacy of Beck's cognitive triad.

Specifically, the purpose of their study was to investigate cognitive processes which have been identified in depressed adults and that are believed to contribute to depression in adolescents. The study pooled 45 adolescents (ages 13-16), 15 of which were clinically depressed, 15 somewhat depressed, and 15 nondepressed. The clinically depressed group consisted of 12 females and 3 males. The somewhat depressed group consisted of 13 females and 2 males, and the nondepressed group consisted of 8 females

and 7 males. Participants rated as clinically depressed were drawn from an outpatient unit from one of three general hospitals. The somewhat or nondepressed samples were recruited from either a residential agency caring for troubled adolescents or a junior high school.

This study utilized the Beck Depression Inventory (BDI; Beck et al., 1961) to determine the severity or existence of depression in the participants. The clinically depressed group scored 21 or higher on the BDI, while the somewhat depressed group scored between 10 and 19 and the nondepressed group scored within the range of 0 to 9. Furthermore, Kelly's Repertory Grid Technique (RepGrid; Kelly, 1955) was utilized to establish a list of names of individuals in the participant's life who fulfilled certain roles provided by the researcher. In addition, three variations of the self elements including: as you are now, as you would like to be in the future, and as others see you, were added to the RepGrid. Using a triangulation method, the researcher took three names as well as including the three possible variations of self and asked each individual to indicate how two of the selected items were alike, but different from the third. Using this method, 12 constructs including kind/mean, hopeful/hopeless, in control/out of control, and happy/sad were obtained. At the conclusion of the study, self-esteem, interpersonal isolation, pessimism about the future, polarized construing, and locus of control were also examined.

Results indicated that the clinically depressed group had "lower self-esteem, greater pessimism about the future, more frequent polarized construing, increased

interpersonal isolation, and a more external locus of control” (p. 667). These results are consistent with Beck’s cognitive triad which suggests that depressed individuals have a negative view of themselves, their environment, and their future.

Recently, Anderson and Skindmore (1995) have attempted to examine the factor analytic evidence for the three components of Beck’s cognitive triad. Participants consisted of 260 college undergraduates enrolled in psychology courses at the Utah State University. The mean age of the students was 24 with a range from 16-54. The Cognitive Triad Inventory (CTI; Beckham et al., 1986), developed to measure all three components of Beck’s cognitive triad, was administered to all the subjects.

A confirmatory factor analysis was completed in an attempt to see if the items load on three distinct factors, (view of the self, view of the world, view of the future). The items were shown to be highly correlated yet distinct constructs for the most part. However, the negative and positive phrasing of the questions proved to be an important consideration. Negatively phrased questions assessing the view of the self did not form a distinct factor which is surprising since a view of the self is considered to be the most significant correlate of depression among the cognitive triad factors. Furthermore, while it was expected that the negative and positive items would load inversely on the same domain, they did not; rather, these items tended to merge along positive and negative dimensions. This may indicate that instead of three domains with positive and negative factors unseparated, the items should be pooled into negative and positive domains as well. This reconstruction of the cognitive triad would lead to six factors instead of three

with selected items referring to the same domain but divided into positive and negative dimensions.

The authors note that the population utilized was a non-clinical sample generally yielding fewer cases of depression. Furthermore, the study should be replicated with adolescent clinical samples.

Finally, Stark, Schmidts, and Joiner (1996) have recently studied the effect of negative schema on parent-adolescent relationships. Specifically, the purpose of this study was to evaluate the relationship between a negative view of the self, the world, and the future, and depressive symptoms in children. In addition, relationships between the children's cognitive triad and perceived parental messages as well as parental views of the self, the world and the future were evaluated. It was hypothesized that the parent's cognitive triad would predict children's perceptions of the messages the child received regarding himself or herself, the world, and the future, as well as the child's own view of self, world and future. It was also hypothesized that the child's cognitive triad would predict depressive symptoms.

Participants consisted of 133 children from grades four through seven (35 boys, and 98 girls). The students ranged in age from 9 to 14 with a mean age of 11.66. The participants were 82% White, 10% Hispanic, 6% African American, and 2% mixed. All of the participants were enrolled in regular education classrooms; however, 4% of the students were classified as learning disabled, and 1% as seriously emotionally disturbed. The students reported a broad range of depressive and anxious symptomatology as

measured with the Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS; Puig-Antich & Ryan, 1986)

This study also utilized the Children's Depression Inventory (CDI; Kovacs, 1981) in order to determine the presence and severity of depressive symptoms, and the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985) to assess the presence and severity of anxiety. Further, the Cognitive Triad Inventory for Children (CTI-C, Kaslow et al., 1992) was utilized to determine the child's view of the self, the world, and the future. Finally, the students completed the Family Messages Measure (FMM; as cited in Stark, Schmidt, and Joiner, 1996) to determine the child's perception of maladaptive and adaptive messages from a parent regarding the child, the world, and the child's future. Parents completed the Cognitive Triad Inventory (Beckham et al., 1986) to assess the parents' view of the self, the world, and the future. Results of several regression analyses indicated that:

(1) children's views of self, world, and future (cognitive triad) are related to severity of depression; (2) mothers' but not fathers' cognitive triads are related to their children's cognitive triads; (3) perceived parental messages to the children about the self, world, and future are predicted of the children's cognitive triads and ratings of depression; and (4) the relationship between perceived parental messages and depression is completely mediated by children's cognitive triads. (p. 615)

Results of this study support Beck's cognitive triad. Further implications include the importance of family communication, family involvement, and family support.

Beck's cognitive triad explains depressive disorders as a result of faulty cognitive processes. The negative view of the self, one's environment, and of one's future,

according to Beck, results in depressive symptoms. This theory, and the supporting research has important implications for future research and the school psychologist. Specifically, research utilizing school-aged participants, may lead to interventions directed at the faulty cognitive process. For example, if it could be demonstrated that a student presenting with major depressive symptoms had a specific negative view of the environment, then interventions could be designed to help alter these perceptions.

Self-Control Model

A second cognitive model includes the self-control model of Kanfer and Rehm, which deals with depression in much the same way as Beck's model. Specifically, this model also attributes the symptomatology of depression to faulty cognitive processes. The self-control model involves the processes of self-monitoring, self-evaluation, and self-reinforcement. According to this theory, the individual with major depressive disorder is believed to have difficulty in one or more of these areas of self-control (Kaslow et al. 1994).

The process of self-monitoring involves the observation of one's own behavior along with antecedents and consequences (Rehm, 1986). For example, a student who is not turning in assignments may count the number of assignments turned in on time each day, and taking note of when he or she turns in an assignment on time or late. In a student with major depressive disorder, self-monitoring may become impaired with the individual selectively attending to negative events. Furthermore, the adolescent with major depressive disorder has a tendency to monitor immediate versus delayed

consequences of his or her behavior (Rehm 1986; Kaslow, et al., 1994).

The process of self-evaluation is the individual's own estimation of performance resulting in a judgement of success or failure (Rehm, 1986). For example, the student may compare the actual number of assignments turned in for the day to a previously set goal. The individual with major depressive disorder may develop a maladaptive self-evaluation process by setting overly stringent criteria for success. Goals may be set too high resulting in almost certain failure. Further, failure in one instance may be overgeneralized to failure in all instances.

A second maladaptive process in self-evaluation is the depressed person's frequent failure to accurately determine the cause of consequences resulting in a feeling of helplessness. A depressed person may feel helpless in two ways. The first is the person's tendency to attribute consequences to external forces resulting in passivity and apathy. The second way a depressed person feels helpless is to excessively internalize failure but believes oneself unable to succeed (Rehm, 1986).

Koenig, Ragin, and Harrow (1995) point out that while many researchers attribute a depressed individual's cognition to maladaptive self-evaluation, few researchers actually determine whether the cognition is accurate. For example, if an adolescent with depressive symptoms declares that he or she has no friends, it becomes important to evaluate whether or not that statement is true. According to the authors, the cognitions may only seem maladaptive compared to the optimistic thoughts of nondepressives. The researchers attempted to examine the self-evaluation process of depressed and

nondepressed subjects as well as determine whether or not the depressed individual's self-evaluation is accurate.

Participants classified as depressed included 18 patients from two psychiatric hospitals in the Chicago area. The normal control group consisted of 47 undergraduate students recruited from psychology courses at the University of Illinois at Chicago. The two groups did not differ significantly, in gender, age or educational level.

Participants were asked to interpret 20 proverbs from the Gorham Proverbs Test. Following completion of the task, subjects were asked to evaluate the items that they answered as well as those answered by others as: "very atypical, somewhat atypical, fairly typical, or very typical of the response most people would give" (Koenig, Ragin, & Harrow, 1995, p. 509). Independent raters also scored the items using the method outlined by Gorham. A method for determining whether the two raters agreed or not was designed.

Results indicated that accuracy for self versus others was less accurate than other-evaluations in both the depressed and nondepressed samples. However, this trend was more significant in the depressed group. While this study needs further replication with adolescents, its initial findings support the position that in individuals presenting depressive symptoms, self-evaluation may become maladaptive. An area that remains to be evaluated or investigated concerns the original hypothesis of this study. If the negative cognitions of an individual with major depressive disorder are accurate, is it the depression that is causing the cognitions or is it the cognitions that contribute to the

depressive symptoms? Research investigating this question might be useful for the design and implementation of interventions.

The process of self-reinforcement involves independent self reward or punishment to oneself. For example, the student who successfully turns in all of his or her assignments for a week may reward himself or herself overtly by going out for ice cream, or covertly by feeling a sense of personal satisfaction. The depressed individual fails to reward himself or herself for success and excessively punishes himself or herself for perceived failures (Kaslow et al., 1994; Rehm, 1986).

The failure to reinforce oneself or to excessively punish oneself was examined by Nelson and Craighead (1977). Their study sought to examine not only the perception of reinforcement and punishment as discussed earlier, but the process of self-reinforcement and self-punishment as well.

The 59 introductory psychology students, 34 of which were classified as nondepressed and 24 of which were classified as depressed, were asked to rate answers to a series of slides as (1) good or (2) bad. Results indicated that while depressed subjects and nondepressed subjects self-punished at an equal rate, the depressed subjects self-reinforced substantially less often.

The authors note that previous studies generally have focused on overt reinforcers (e.g. candy, or money); however, they argue that covert reinforcers are equally important. Furthermore, implications of this theory may be important with school-aged participants as the processes of self-monitoring, self-evaluation, and self-reinforcement are essential

parts of learning in the classroom.

Behavioral Theory

There are several variations of the behavioral theory (also called learning theory), but the fundamental proposition of this perspective is that all behavior is learned. The view, then, of maladaptive behavior follows logically: Since behavior is learned, any behavior can be unlearned. According to behaviorists, depression is a result of learned behavior.

The origins of behaviorism lie in the work of John B. Watson (1920) who emphasized the need to make observable behavior the subject matter of psychology. He applied Pavlov's basic principles of instrumental conditioning to humans. Instrumental conditioning implicates learning by association. For example, when a student associates feelings of fear with some experience or object in a classroom that should not ordinarily be fearful, then instrumental conditioning has occurred.

B.F. Skinner (1953) accepted the idea of classical conditioning but added a new concept, operant conditioning. Not only does learning occur through association, but it also occurred because of specific consequences to the behavior. Moreover, behavior that is reinforced is behavior that is likely to be repeated. The application of his principles of operant conditioning is commonly referred to as behavior analysis or modification. The emphasis would be on changing behavior. In the case of depression, it would be to change the behavior that leads to depression (Kaslow et al., 1994).

Lewinsohn (1986) provided three assumptions that explain how behavioral

theory accounts for depression. The first assumption posits that a low rate of response-contingent positive reinforcement acts as an unconditioned stimulus for some depressive behaviors, for example dysphoria, and fatigue. Specifically, if a student receives a low rate of positive reinforcement, such as verbal praise, for positive performance in the classroom, depressive symptoms may result. The second assumption states that a low rate of positive reinforcement constitutes an explanation for other parts of the depressive syndrome such as the low rate of behavior. Specifically, if a student is receiving only limited praise, the student may become more and more lethargic in the classroom. The third assumption stated that the total amount of positive reinforcement hinges on three variables. The first variable relates to the number of activities which are considered potentially reinforcing. For example, a student may receive limited positive reinforcement at the junior high level simply because he or she may turn in fewer assignments than at the grade school level and as a result have fewer activities which serve as reinforcement. The second variable is the number of potentially reinforcing events that can be provided by the particular environment. Specifically, at the junior high school level, there are simply fewer events that are reinforcing than at the grade school level. Finally, the third variable addresses the fact that not all students have the ability to emit those behaviors which elicit reinforcement from the environment. For example, at the junior high level a student may not have the ability to complete abstract mathematical problems assigned in pre-algebra resulting in lowered positive reinforcement. Lewinsohn (1986) also explains that the behavioral theory requires that

the amount of positive reinforcement received by depressed persons be less than that received by nondepressed persons, that the onset of depression be accompanied by lowered positive reinforcement, and that improvement in depressive symptoms be accompanied by an increase in positive reinforcement.

Social Skills

The social skills model of depression has its roots in operant psychology, with depressed persons receiving insufficient positive reinforcement due to social skills deficits. "Social skills is defined as the ability to emit behaviors that are positively reinforced by others" (Lewinsohn, 1986 p. 165). Research indicates that depressed students have a deficit in the area of social skills resulting in lowered popularity, significantly more negative thoughts, and a higher expectation of failure as well as lowered energy and a low activity level. Depressed students, as well as their teachers, report "significantly more inappropriately assertive behavior and significantly less appropriate social behavior" (Stark, 1990 p. 160). The cycle of lowered activity, negative thoughts, and limited positive reinforcement only succeeds in exacerbating the depression.

In order to evaluate the relationship between social skills deficits and depression, studies have generally (1) asked students who are known to have high levels of depressive symptoms to report their own levels of social competence, or by (2) asking significant others (peers, teachers) to rate the social competence of students who report high levels of depressive symptoms.

A more recent study attempted to explore social competence in specific situations, as reported by classroom teachers of students who report either high or low levels of depressive symptoms (Shah & Morgan, 1996). Subjects included 51 second through fifth graders (28 males and 23 females) who had either reported high (a CDI score of 19 or higher) or low (a CDI score of 7 or lower) scores on the Children's Depression Inventory (CDI; Kovacs, 1981). High scores on the CDI were obtained by 12 males and 8 females. Low scores on the CDI were obtained by 16 males and 15 females (Shah & Moran, 1996). The sample included 27 (53%) African American children and 24 (47%) White children which is representative of the area in which the study was conducted. There were no significant differences in gender, age, or grades between the two groups (high and low levels of depressive symptoms).

In addition, this study utilized the Taxonomy of Problematic Social Situations for Children (TOPS; Dodge, McClaskey, & Feldman, 1985) which is a 44-item questionnaire asking teachers to rate, for each situation, how likely the student is to respond in an inappropriate manner. Further, the CDI was utilized in order to determine the severity of depressive symptoms as reported by the student.

Group administration of the CDI was given to those students who obtained parental consent. Classroom teachers then completed the TOPS but remained unaware of the student's CDI score.

Results demonstrated that, for the most part, teachers rated students who reported high levels of depressive symptoms as having more problems in social competence.

Teachers correctly classified 85% (17 out of 20) of the students with high CDI scores. Further, teachers correctly classified 77.4% (24 out of 31) students with low CDI scores. Results suggest that students who report high levels of depressive symptoms are problematic in many areas involving social competency including situations in which there are group activities, situations in which teacher expectations are not clear and in situations involving success or failure.

While the previous study's purpose was to evaluate the negative impact of social skills deficits and depression, the findings may have serious implications for the referral rate of students demonstrating depressive symptoms. The results from the study indicate that teachers are able to recognize students who are demonstrating symptomatology consistent with depression. This is an essential point, as the low referral rate for students who are depressed remains a serious problem. The process of making teachers aware of depressive symptoms, and what a depressed student "looks like," could lead to advances in this area.

In 1996, Cole, Martin, Powers, and Truglio, investigated the relationship between depression and social competence as well as depression and academic competence. Participants included 1,011 elementary students from either third (490 students) or sixth grade (455 students) in one of nine public schools in the Midwest. The students were 66.1% white, 29.8% African American, 1.7% Hispanic, 1.8% multi-ethnic and 0.5% other. The mean age was 8.37 years for the third graders and 11.36 years for the sixth graders. A sample of 49 teachers and 565 parents were included as well.

The following measures were utilized in this study: the CDI (Kovacs, 1981); the Self-Perception Profile for Children (SPPC; Harter, 1985); peer nominations; Peer Nominations Measure of Competence (PNMC; as cited in Cole et al., 1996); the Teacher's Rating Index of Depression (TRID; as cited in Cole et al., 1996); and the parent form of the CDI. These measures were administered in two waves. The first wave occurred approximately six to 10 weeks into the Fall semester while the second wave occurred approximately six months later.

Results indicated several major findings; however, the finding pertinent to this review is that depression was moderately and negatively correlated with academic competence (r s ranged from $-.53$ to $-.69$). The correlation between social competence and depression was even higher than that of academic competence (r s ranged from $-.74$ to $-.81$).

During the same year King, Akiyama, and Elling (1996) also demonstrated a relationship between self-perceptions of social competence and depressive symptoms. The purpose of this study was to investigate self-reported depressive symptoms and self-perceptions of physical attractiveness, social acceptance, and behavioral conduct. Subjects included 125 students (60 males, and 65 females) from middle schools in the United States as well as 99 students (53 males and 46 females) from middle schools in Japan. Students in the United States were recruited from two Midwest districts. The socioeconomic status ranged from mostly lower-middle to the upper-middle class. Students from Japan were recruited from one public school in a suburb of Tokyo. There

was a full range of socioeconomic levels.

The following measures were administered to all of the subjects: Self-Perception Profile for Children (SPPC; Harter, 1985); Connectedness and Separateness Scale (as cited in King et al., 1996); and the Reynolds Adolescent Depression Scale (RADSD; Reynolds, 1986).

Results indicated that 16% (20 students) from the United States sample and 11% (11 students) from the Japanese sample scored above the clinical cutoff of 77 or above for depressive symptoms. Multiple regression analyses demonstrated that self-perceptions of social acceptance contributed to depression among both the United States and Japanese students.

Chan (1997) also lends support to the relationship between social skills deficits and depressive symptomatology. The purposes of the study were to (1) identify depressive symptoms and symptom dimension of Chinese adolescents; (2) evaluate the effects of perceived academic and social competence on depressive symptoms; and (3) provide initial psychometric information of the utility of the CDI as an assessment tool of depression for Chinese adolescents in the school population.

The sample included 621 students (323 boys, 296 girls, and 2 unknown) recruited from three secondary schools in Hong Kong. Students ranged in grade level from 7 to 12 and were between the ages of 13 and 17 with the mean age at 15.5. The sample was considered to be representative of the area with the schools from three different districts and a range of socioeconomic backgrounds.

The measures utilized for this study included the CDI which was administered to the entire sample. The recommended cutoff score of 20 was utilized to categorize students as depressed. The Self-perception Profile for Adolescents (SPPA; Harter, 1988) was administered to only 302 students due to a lack of time. In order to assess for social competence, a score was computed from relevant items on the SPPA.

Results indicated that of the 319 students who completed the CDI and the SPPA, depressive symptoms were the highest among those students who perceived themselves to be relatively socially incompetent. The findings of this study support the theory that social skills deficits contribute to depressive symptoms. It should be noted that this study should be replicated with a population in the United States as the rate of depressed adolescents may have been elevated in this sample due to cultural differences. An area that remains to be investigated concerns the relationship between gender differences, social skills deficits, and depressive symptoms.

Problem-Solving Deficits

Problem solving is an essential part of every day living. Life seems to present one problem after another, and without the ability, or a lowered ability, to problem solve, maladaptive cognition is nearly inevitable. Problem solving was defined by D'Zurilla and Goldfried (1971) as the following:

a behavioral process, whether overt or cognitive in nature, which (a) makes available a variety of potentially effective response alternatives for dealing with the problematic situations and (b) increases the probability of selecting the most effective response from among these various alternatives. (p. 108)

Depressive symptoms have been associated with problem solving deficits throughout the clinical research literature. Those individuals presenting with depressive symptomatology are reported as having lowered ability to make decisions, lowered ability to set goals and to make plans to achieve them, and lowered perception of problem solving abilities (Stark, 1990).

Kaslow, Tanenbaum, Abramson, Peterson, and Seligman (1983) attempted to examine whether problem solving deficits in children contribute to depressive symptoms. Participants included 40 school children ages 9 through 11. The fourth and fifth graders were recruited from an elementary school in Philadelphia. All of the participants were white, middle class, were not receiving medication of any kind, and had no diagnosed learning disability. Participants completed the Children's Depression Inventory, an anagram task consisting of 20 five letter scrambled words, and the block-design task from the WISC-R. Finally, the students identified as least depressed and most depressed also completed the Peabody Picture Vocabulary Test within one month of the original administrations.

Results indicated that the higher the CDI and BDI scores were the slower the child was to complete the anagram and block design tasks. The authors note that these results parallel results found in samples of depressed adults. Further, the authors point out that when a student is having difficulty in school, that the possibility the child is depressed rather than stupid, should be considered. Finally, the authors noted some limitations of the study including the fact that the children were not severely depressed,

and whether these results would be generalized to clinical samples. Furthermore, the authors stated that the effectiveness of self-report instruments such as the CDI for assessing depression in children may be relatively unknown.

Yang and Clum (1994) hypothesized that “depressive symptoms, hopelessness, and suicidal ideation would be predicted by the interaction between life stress and problem-solving deficits.” (p. 128) Participants included 101 international students (73 male and 28 female) from a southeastern university. The participants ranged in age from 18 to 40 with a mean age of 23.49. The following measures were administered to the participants: the Modified Scale for Suicide Ideation (MSSI; Miller, Norman, Bishop, & Dow, 1986), Zung’s Self-Rating Depression Scale (ZDS; Zung, 1965), Beck Hopelessness Scale (BHS; Beck, Wissman, Lester, & Trexler, 1974), the Life Experiences Survey (LES; Sarason, Johnson, & Siegel, 1978), the Modified Means-End Problem-Solving Procedure (MMEPS; Platt, Spivack, & Bloom, 1971) and the UCLA Loneliness Scale (UCLA; Russell, Peplau, & Ferguson, 1978).

Results indicated that all hypotheses were supported. For example, problem solving deficits, identified as the participant generating fewer relevant alternatives, were positively related with depression. Furthermore, more cons than pros for alternatives were related to high symptoms of depression, hopelessness and suicide ideation. These results indicate that problem solving deficits are indeed related to depressive symptoms as well as suicide ideation. The study should be replicated with students from the United States as well as an adolescent sample.

Finally, Haaga, Fine, Terrill, Stewart and Beck (1995) hypothesized that the correlation of problem solving deficits and depression may be accounted for by another correlate of depression, specifically interpersonal dependency.. The authors speculated that those individuals who are depressed actually fail to develop or utilize their own problem solving skills. Participants were 115 undergraduate students ranging in age from 17 to 54 with a mean age of 19.8. The students completed the Social Problem-Solving Inventory (SPSI; D'Zurilla & Nezu, 1990), the Sociotropy scale of the Sociotropy-Autonomy Schedule (SAS-S; Beck, Epstein, Harrison & Emery, 1983), the Beck Depression Inventory (BDI; Beck et al., 1961); the Inventory to Diagnose Depression (IDD; Zimmerman, Coryell, Corenthal & Wilson, 1986); and the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988).

Results indicated that problem-solving deficits are related to symptoms of depression and anxiety. It was not evident which depressive symptoms the relationship was with. The authors note that further research should be conducted in the area of problem orientation.

Learned Helplessness

The learned helplessness model has been advanced as a behavioral theory. This model was originally proposed in 1974 by Seligman (Seligman, 1974). According to this model, an individual becomes depressed when events are perceived to be out of the individual's control. The depressed individual simply gives up, exhibits lowered self-esteem, and develops impaired problem-solving abilities. Nolen-Hoeksema, Girgus, and

Seligman (1986) found that helplessness in the classroom, poorer school achievement, and depressive symptoms were all significantly intercorrelated.

The learned helplessness model was later revised by Abramson, Seligman, and Teasdale (1978), and has become known as the *attributional theory*, focusing on the explanations an individual gives for the cause of his or her behaviors (Joiner & Wagner, 1995; Kaslow et al., 1994). Specifically, the revised theory focused on three major dimensions of attributions regarding negative life events: (a) internal-external, (b) stable-unstable, (c) global-specific (Joiner & Wagner, 1995). Internal causation refers to causes within the individual such as, intelligence or ability. External causation refers to causes outside of the individual such as fate or luck. Individuals who believe the cause of an event to be stable and enduring tend to develop a sense of hopelessness about the future. Furthermore, those individuals who believe the cause of an event to be global generally tend to view the cause as generalizable across situations while specific causation would affect only one situation. In general, the reformulated learned helplessness model maintains that individuals who attribute negative events to internal, stable, and global causes will be more vulnerable to depressive symptoms. Furthermore, those individuals who attribute the causes of positive events to be external, unstable and specific will be more vulnerable to depressive symptoms. For example, researchers point to low achieving students who attribute success to external factors such as the ease of the task or luck, while attributing failure to internal, stable factors such as low ability (Dalley, Bolocofsky, Alcorn, & Baker, 1992).

A substantial amount of research has been conducted examining attributional style and depressive symptoms. A meta-analytic review examining what was considered to be the overwhelming majority of research, conducted by Gladstone and Kaslow (1995), confirmed that those adolescents who attribute the causes of negative events to be internal, stable over time, and global or generalizable across situations are at greater risk for developing depressive symptoms. The same is true for those individuals who attribute the causes of positive events to be external, unstable, and specific.

For example, the study conducted by Benfield, Palmer, Pfefferbaum and Stowe (1988) confirmed a positive relationship between negative attributional style and depressive symptoms when confronted with positive or negative life events. Subjects included 37 children and adolescents ranging in age from 9 to 17 years. The subjects were inpatients at a major teaching hospital psychiatric unit. Subjects were divided into two groups, depressed and nondepressed. Of the depressed subjects, 14 were male and 6 were female. Of the nondepressed subjects, 6 were male and 11 were female.

Assessment measures utilized in this study were the CDI; the Brief psychiatric Rating Scale for Children (BPRS-C; Overall & Pfefferbaum, 1982), and the Children's Attributional Style Questionnaire (KASTAN-R; Kaslow, Tannenbaum, & Seligman, 1978)

Results indicated that not only was there a greater tendency for depressed adolescents to attribute positive events to unstable factors, they also attributed negative life events to stable factors.

Dalley et al. (1992) investigated self-reported depressive symptoms, attributional style, dysfunctional attitude and social competency in students classified as learning disabled (LD) and nonspecial education students (NSPED). Additional subgroups of the sample included LD successful and unsuccessful groups, and NSPED high and low grade point average groups.

Subjects included 147 adolescents from northern Colorado. This study utilized the RADS (Reynolds, 1987) with a cut off score of 77 indicating a severity level of depressive symptoms consistent with a clinical diagnosis. Subjects also completed the Attributional Style Questionnaire (ASQ; Peterson et al., 1982); the Children's Attributional Style Questionnaire (CASQ; Seligman et al., 1984); the Dysfunctional Attitudes Scale (DAS; Beck, 1972); and a social competency rating adapted from a scale developed by Lewinsohn et al. (1980).

Results from the study indicated that NSPED students "attributed the causes of positive events more to internal, stable, and global factors" (p. 453), supporting the reformulated attributional theory. However, the study demonstrated no significant differences among the groups in regards to negative events contrary to previous findings in the literature:

In another study, Curry and Craighead (1990) examined the attributional styles of adolescents known to be depressed either with or without a coexisting diagnosis of conduct disorder. It was hypothesized that in support of the reformulated learned helplessness model, depressive attributional style for positive and negative events would

be characteristic of the depressed adolescent who did not have a coexisting diagnosis of conduct disorder.

Subjects included 63 adolescents (33 boys and 30 girls) from an inpatient adolescent psychiatry program. Subjects were between the ages of 12 and 18 years. Of the 63 subjects, 59 were White, and 4 were African American.

Measures utilized in this study included the CDI (Kovacs, 1983); the Jesness Inventory (JI; Jesness, 1983), a self-report measure identifying conduct disorder characteristics, the Total Anxiety scale of the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds, 1985), and the Children's Attributional Style Questionnaire (CASQ; Seligman et al., 1984).

Results of the study showed that the "failure to make internal, stable, and global attributions for positive events was significantly related to severity of adolescent depression;" (p. 112) however, attributional style for negative events was not correlated with depression contrary to previous findings.

Although the reformulated learned helplessness model is supported by a tremendous amount of literature, Sakamoto and Kambara (1998) of Japan have proposed alternate explanations for these findings. The authors of this study propose that it is possible that it is not in fact the *nonenhancing* attributional style (the tendency to attribute positive events to unstable and specific causes) that contributes to depression but rather the *enhancing* attributional style (the tendency to attribute positive events to stable, global causes). The authors propose that the enhancing attributional style allows

an individual to keep from becoming depressed by remaining hopeful. To investigate the influence of attributional style, the researchers conducted a longitudinal study in three sessions from April to October, 1993. It was hypothesized that those individuals who have a nonenhancing attributional style would experience more depressive symptoms when confronted with negative events. Further, those individuals with an enhancing attributional style will be less depressed than those with a nonenhancing attributional style when confronted with positive events.

Subjects included 143 Japanese undergraduates (43 male and 100 female) from introductory psychology courses. Assessment measures utilized in this study included the Japanese Attributional Style Questionnaire (JASQ); the Japanese version of the Zung Self-Rating Depression Scale (SDS); and a newly developed life event questionnaire.

Attributional style was assessed at time one as well as depressive symptoms. At times two and three, life events and depressive symptoms were assessed.

Results indicated that when confronted with a greater number of negative events, the individuals with nonenhancing attributional styles tended to be more depressed than those with enhancing attributional styles. Furthermore, those individuals with an enhancing attributional style were less depressed than individuals with a nonenhancing attributional style when confronted with positive events.

Attributional theory and the research that supports it, has serious implications for educators. It seems that not only is it important for students to succeed, but it is equally important for the students to attribute the success to their own abilities. Another

potentially useful area of investigation concerns the possibility of teaching students to attribute success to internal means.

In summary, self control, social skills, problem solving, and attribution for live events, are essential areas within the adolescent depression literature. Deficits, or skewed abilities in any of these areas may have serious implications for students, their families, and their teachers. An understanding of the literature lends important information for the development of assessment tools and intervention strategies.

CHAPTER 3

Self-Report Assessment Measures

The seriousness of depressive syndromes in the adolescent population calls for a careful examination of the assessment procedures used to assess and diagnose depressive disorders in adolescents. Some of the commonly used assessment tools have included projective measures, clinical interviews, and self-report instruments. For the purpose of this review, however, self report assessment measures will be discussed solely.

Self-report assessment measures are most commonly used by school psychologists in an effort to quickly identify those students who may be in need of additional services. These measures have multiple advantages including ease of administration, and ease of establishing psychometric properties of reliability and validity. Furthermore, self-report assessment tools possess clinical utility because they tap internalized symptoms such as sadness and anhedonia that are not necessarily obvious to other people.

When utilizing self-report measures, disadvantages must be considered as well. For example, the psychologist must consider the ability of the youth to accurately report their feelings. A second concern relates to the ability of the instrument to differentiate depression from other commonly coexisting childhood disorders such as anxiety; and, the degree of convergence across assessment data is an equally important factor.

However, for the school psychologist, the identification of the students with major depressive disorders remains essential, as the unidentified disorder is likely to lead

to further emotional, social, and academic problems. Therefore, commonly used self-report measures including the Children's Depression Inventory, the Beck Depression Inventory, and the Reynolds Adolescent Depression Scale will be examined. For each instrument, a brief overview of the purpose of the test as well as normative data will be given. Further, the ability of the measure to tap into the symptoms that are relevant to depression (construct validity) will be considered. Finally, the ability of the measure to discriminate (discriminant validity) depression from other commonly coexisting disorders will be examined, as well as information regarding how the measure compares (concurrent validity) with other similarly utilized instruments..

Children's Depression Inventory

One of the most widely used self-report measure of depressive symptoms in children is the Children's Depression Inventory (CDI; Kovacs, 1981). This instrument was designed to measure depression in school aged children and adolescents between the ages of 8 and 17. It should be noted that the CDI is designed to measure a state rather than a trait aspect of depression. The CDI was modeled after Beck's Depression Inventory (BDI; Beck et al., 1961) which was drawn from his cognitive triad theory. Items draw specifically on the cognitive state of the individual.

The measure is easy to administer to a group or individual, with only 27 items asking the student to rate his or her feelings in the last two weeks. Students for example are asked to choose among the following alternatives: (a) "I am sad once in a while, 0 (absence of symptom), (b) "I am sad many times," 1 (mil'd symptom), or (c) "I am sad

all of the time," 2 (definite symptom). Total scores may range from 0 to 54 by simply summing the responses. Factor scales are available as well. Raw scores are typically converted to T scores for scale interpretation (Kovacs, 1992).

Kovacs' (1992) manual on the CDI provides limited normative data. The primary normative data includes a sample of 1,255 students from a Florida public school (grades two through eight). Of these students, 592 were boys and 674 were girls. Data on individual ethnicity was not made available; however, it was estimated that 77% of the children were white and 23% were African American, American Indian, or Hispanic. Further, in the manual, Kovacs reports on earlier research which examined a normative sample of psychiatrically referred children ($n = 75$), pediatric-medical outpatient group ($n = 61$), and Toronto public school students ($n = 860$). No data regarding mean CDI scores, or gender differences were discussed. Thus, normative data for specific ages are needed for this instrument to be of clinical utility to the school psychologist.

The examination of factor analytic studies is important to the psychologist as these investigations provide the basis for evaluating the construct validity (dimensions of the construct) of the instrument. The manual indicates that the five factors: negative mood, interpersonal problems, ineffectiveness, anhedonia, and negative self esteem inter-correlate in the .34 to .59 range.

Further research was conducted by Saylor, Finch, Spirito, and Bennett (1984) who examined the factor structure of the CDI with a sample of 294 school children and 269 children who were psychiatric inpatients. The researchers found that for the 294 school

children, eight factors emerged. Among the 269 children who were psychiatric inpatients, seven factors emerged. The authors state that there is great similarity between the two factor analytic studies with many of the same items emerging on the same factor.

Finally, Carey, Faulstich, Gresham, Ruggiero, and Enyart (1987) also investigated the factor structure of the CDI. Participants of the study included 153 child and adolescent psychiatric inpatients, and 153 nonreferred children and adolescents. The ages of the participants ranged from 9 to 17 years with a mean age of 14. Initially, the researchers required that the eigenvalue for factor retention be greater than or equal to 1. This procedure allowed seven factors to be retained for the combined sample of clinical and nonreferred participants. When data from the samples were factored separately, eight factors emerged. However, after utilizing the traditional scree plot criteria for factor extraction, two-factor and three-factor models emerged.

In summary, while several studies and the manual agree that there are somewhere between five and eight factors that could be extracted for the CDI, authors remain somewhat cautious. If the CDI was developed based on Beck's cognitive triad model, one would expect three factors to emerge based on the view of the self, one's environment, and one's future. The results of the previous investigations, however, seem to suggest that the CDI is measuring factors which may be unrelated to the construct of depression as presented by the theoretical framework from which the measure evolved.

Doerfler (1988) attempted to analyze the concurrent validity of the CDI. The researcher utilized a sample consisting of 1,207 students from grades 4 through 12 from

rural Southern communities. Of the sample, 47% were male, 49.5% were White, 48.8% were Black, and 1.7% Hispanic. The participants completed several measures including the CDI, the Center for Epidemiological Studies Depression Scale (CES-D; Weissman, Orvaschel, & Padian, 1980), the Children's Manifest Anxiety Scale-Revised (Reynolds & Richmond, 1978), the Nowicki-Strickland Locus of control Scale (Nowicki & Strickland, 1973), Self-Appraisal Inventory (Narikawa & Frith, 1972) and the Perceived Competence Scale for Children (Harter, 1982). The teachers completed three behavior checklists: the Health Resources Inventory (Gesten, 1976), the AML (Cowen, Pederson, Baibgian, Izzo & Trost, 1973) and the Conners Abbreviated Teacher's Questionnaire (Conners, 1973) for grades four through six. Finally, a parent version of the AML was completed by one of the parents.

Results indicated that all the measures were highly inter-correlated when they were obtained from the same source. The two depression measures were moderately correlated at .58. The CDI and anxiety measures correlated at .63, as well as demonstrated low-to-moderate negative correlations with self competence, self-concept, and locus of control instruments. The correlation of measures from different sources was relatively poor. The two depression measures correlated moderately with all teacher ratings ranging from .10 to .30. The research supports the CDI's association with measures of constructs associated with depression but only a weak correlation with parent or teacher measures. Further, the low correlation between similar measures when they were obtained from different sources demonstrates a concurrent validity weakness.

Matson and Nieminen (1987) examined the concurrent and discriminant validity of several measures of conduct disorder, depression and anxiety. The study utilized a sample of 95 students between the ages of 11 and 18 (15 females and 80 males). All of the participants had been previously identified as behavior disordered and in need of services. All of the participants completed the CDI, the Reynolds Adolescent Depression Scale (RADS; Reynolds, 1986), the Behavior Problem Checklist (Quay & Peterson, 1975) and the Walker checklist (Walker, 1970), as well as a teacher interview.

Results indicated that the two depression measures correlated at .62 for student self-report and .79 for teacher measures. However, correlations across raters were much lower with teacher-self ratings at .33 for the CDI, and for the RADS at .36. Finally, the authors reported that the CDI had adequate discriminant validity with the exception of the inter-correlation between the CDI and the RADS and between the CDI and the first anxiety measure. The remaining eight correlations ranged from .06 to .32.

Matson and Niemien's results lend support to the criterion-related validity. Kovacs (1992) reported a $-.72$ coefficient when the CDI was compared with the Coopersmith Self-Esteem Inventory, as well as a coefficient of .66 when correlated with the Revised Children's Manifest Anxiety Scale.

In general, the CDI has been shown to be reliable and valid. However, experts caution that with the lack of normative data within the manual and clinical research, the discrepancies regarding the number of factors within the manual and follow-up research (Saylor et al., 1984; Carey et al., 1987) as well as low cross-rater concurrent validity

(Doerfler, 1988; Matson & Nieminen, 1987), the CDI should be reserved for research (Kavan, 1990; Knoff, 1990). Finally, an area of research that has been relatively ignored is whether the items in the measure factor into the three areas of Beck's cognitive triad from which they were drawn.

Beck Depression Inventory

The Beck Depression Inventory (BDI; Beck et al., 1961) is a self-report assessment tool designed in 1961 (BDI-I) and revised in 1971 (BDI-IA; Beck & Steer, 1993) to measure overall severity of depression. The BDI was developed out of Beck's cognitive triad model of depression. Recently, Beck, Steer, and Brown (1996) revised the BDI-IA to make the items consistent with the DSM-IV depressive criteria. Four new items addressing agitation, worthlessness, loss of energy, and concentration difficulty were written to replace the BDI-IA items addressing body image change, work difficulty, weight loss, and somatic preoccupation. The BDI-II was developed for use with psychiatric populations although the authors suggest the instrument might be appropriate for use of with clinical and non-clinical adults and adolescents. The BDI-II may be administered by group or individual, oral or written. The items for the BDI-II tap into the cognitive and somatic-affective states of the individual, asking about depressive symptoms and attitudes. Participants are asked to choose among four alternatives. For example: (0) "I do not feel sad," (1) "I feel sad," (2) "I am sad all the time and I can't snap out of it," and (3) "I am so sad or unhappy that I can't stand it." Scoring is as simple as summing the items. Scores for the BDI-II range from 0-63 with 0-9 indicating

minimal depression, 10-16 mild depression, 17-29 moderate depression, and 30-63 severe depression. The 21 items cover the following symptoms: cognitive, affective, somatic and vegetative (Beck & Steer, 1987).

The original BDI manual provides little normative data with a sample consisting of 944 adult outpatients with mixed diagnosis. Item-total scale correlations range from .07 to .68 with most values above .30 indicating good internal consistency. Cronbach alpha reliability indices range from .79 to .90 indicating good overall reliability (Beck & Steer, 1987).

Teri (1982) attempted to provide normative data with an adolescent sample, in an effort to determine whether or not the original BDI is a suitable measure for this sample. A sample of 645 students, grades 9 through 12 were utilized. The participants were from a Vermont high school selected because of socioeconomic heterogeneity along with a rural and semi-urban mixture of students. Of the 645 students, 568 returned usable questionnaires. This sample consisted of 228 males and 340 females ranging in age from 14-17. All participants completed the BDI along with a demographic information questionnaire.

Results from this study indicated that the mean BDI score for the total sample was 8.47 with a standard deviation of 8.03. The results also indicated that more females than males reported high levels of depressive symptoms. Furthermore, participants reporting an F grade point average also reported more depressive symptoms than those reporting grades of C or better. Participants living without their natural parents also

indicated significantly more depressive symptoms than those residing with one or both of their natural parents (Teri, 1982).

Findings from research bearing on the factorial structure of the BDI have indicated from one through seven factors. For example, Byrne and Pierre (1990) attempted to examine the factorial structure of this instrument in a Canadian high school sample. The researchers utilized a sample of ninth through twelfth graders all from the same secondary school in metropolitan Canada. The participants ranged in age from 12 to 18 years. Each participant completed the BDI along with several other assessment measures. Common factor analyses were conducted for potential 2-, through 7-factor solutions with a value of .35 as the cut-off point for judging the item-factor saliency. The researchers reported that the 2-factor and those based on more than four factors were rejected for several reasons including the fact that the factors were ill defined, the pattern changed drastically from one loading to the other, and that other statistical criteria such as goodness-of-fit were unsatisfactory. Results of the study indicated a 4-factor solution, as well as a more plausible 3-factor solution.

Within the 4-factor solution, eight items loaded on the factor labeled negative attitude, three items loaded on the physiological factor, and two items loaded on the Performance Difficulty factor. The fourth factor shared items that were representative of a Negative Attitudes and Performance Difficulty factor therefore making the solution less meaningful due to the item cross-loadings. Within the 3-factor solution, nine items loaded on Negative Attitudes, seven items loaded on the Performance Difficulty factor,

and two items loaded on the Physiological factor. Overall, Byrne and Pieire (1990) accepted the three factor solution as most appropriate for the Canadian high school sample.

Another attempt has been made to examine whether the BDI is an appropriate measure for adolescents. Specifically, these researchers examined evidence for convergent and discriminant validity of the BDI (Barrera, Carolynne, & Garrison-Jones, 1988). Two groups of students were utilized. The first group consisted of 65 participants aged 12 to 17 from a private psychiatric facility. Secondly, a sample of 49 participants from a secondary school was utilized. Measures included the BDI, the Child Assessment Schedule (CAS; Hodges, Kline, Stern, Cytryn, & McKnew, 1982), and the Perceived Competence Scale for Children (PCSC; Harter). The CAS (a semi-structured interview) was administered to identify those students who would be labeled depressed. Of the hospitalized patients, 27 met diagnostic criteria for Major Depressive Episode; of these patients, 25 also met criteria for at least one other diagnosis most commonly conduct disorder, overanxiousness, or separation anxiety. Of the 38 hospitalized participants who were not identified as depressed, 32 were identified as conduct disordered and some also were identified as overanxious or having avoidant disorders. Of the non-hospitalized students, 5 met criteria for major depressive episode, while three obtained additional diagnosis. Of the non-depressed non-hospitalized participants, 7 met diagnostic criteria for some type of psychological disorder. That is, four of these students received a diagnoses of conduct disorder, two oppositional disorder, and one

overanxious disorder.

The authors noted that because of the multiple participants who were diagnosed with depressive disorders and other coexisting disorders, it was important to establish evidence of convergent and discriminant validity. For the clinical sample, the BDI was significantly correlated with the depression items on the CAS with a coefficient of .49 and general self-worth at -.40. Further, BDI scores were not significantly related to CAS items pertaining to conduct disorder or anxiety symptoms. These relationships support concurrent and discriminant validity, respectively.

For the non depressed and nonhospitalized sample, the BDI was significantly correlated with depression items on the CAS with a coefficient of .73 and general self worth at -.64. The BDI was significantly related to conduct disorder symptoms at .29 and anxiety symptoms at .29.

While the BDI does demonstrate adequate reliability and has demonstrated a certain degree of concurrent and discriminant validity with adult samples, more research is needed with adolescents in order to promote its use with that population. Further, researchers express dismay regarding the use of the BDI for a screening measure, since the BDI was developed to measure the severity of depression in already diagnosed patients (Reynolds, 1994).

Reynolds Adolescent Depression Scale

The Reynolds Adolescent Depression Scale (RADS; Reynolds, 1986) is a self-report measure designed to screen for depression or to evaluate the severity of depressive

symptoms in older adolescents, ages 12-18 (Reynolds, 1994). The RADS was not designed in congruence with any specific theory of depression, but rather on the basis of symptomatology identified in the DSM-III. However, the items generated for the RADS are consistent with behavioral and cognitive theories as they attempt to evaluate attitudes and behaviors of the participant. Specifically, the measure consists of 30 items written at the third grade reading level, with a four-point response format. For example, an item would read: "I feel like crying," with the following alternatives: "almost never," "hardly ever," "sometimes or most of the time." Scores range from 30-120 with a cutoff of 77. The RADS was designed to reflect the DSM-III's report of depressive symptomatology. "Items evaluate somatic, motivational, cognitive mood, and vegetative components of depression." (Reynolds, 1994 p. 218).

According to the author, initial normative data for the RADS was conducted on more than 2,460 adolescents grades 7-12 from a suburban-rural Midwestern high school. The sample was 75.8% White, 20.6% Black, and 3.6% other.

Reynolds, (1987) reported a four-factor model based on a sample of 2,402 adolescents. The factors were reported as descriptive of the following dimensions of depression: Cognitive, Internalized-Despondency, Externalized Somatic-Vegetative and Mood-Anhedonia . To date, there has been little replication of this work for the American version of the RADS.

Evidence for concurrent validity was offered with the demonstration of significant correlations between the RADS the BDI and CDI. Finally, Reynolds (1987)

points out that the RADS correlated highly with related constructs such as self-esteem, anxiety, and loneliness but low with social desirability and academic achievement which are unrelated to depression.

Atlas and DiScipio (1992) attempted to examine the relationship between the RADS and the BDI. A sample of 58 students ranging in age from 11 to 18 with a mean age of 14 completed each measure. The participants were mostly hospitalized adolescents on medication. Four of the individuals were diagnosed as having Posttraumatic Stress Disorder and 21 with Conduct Disorder. The control group of 23 students were recruited from a parochial school and were not on medication.

Results indicated a high positive correlation between scores on the BDI and the RADS. However, the more significantly depressed group demonstrated a higher correlation at .73. The scales did not correlate differently for Posttraumatic Stress Disorder, Conduct Disorder, or the control group. The failure of the scales to differentiate among the groups is an important consideration in the selection of this instrument.

Nieminen and Matson (1989) compared two groups of students who were considered to have high and low levels of depressive symptoms as identified by scores on the RADS. The participants included 76 students (63 male and 13 female) ages 11 through 18 with a mean age of 14.5. All participants had been identified as having severe behavior problems. Participants were administered the CDI, the RADS, the Behavior Problem Checklist, (BPC; Quay & Peterson, 1975) and the Walker Problem

Behavior Identification Checklist (Walker, 1970).

Results of the study (Nieminen & Matson, 1989) indicated a small, but significant relationship between conduct problems and depressive symptoms. Furthermore, those students scoring high on the RADS with a mean of 83.8 differed significantly from the RADS low group with a mean of 59.1. The two groups were significantly different on four of the seven other self-report measures as well.

The RADS also has demonstrated moderate reliability and validity. The measure has been shown to possess high internal consistency as well as adequate discriminant and concurrent validity. However, the limited factor analytic data for this instrument is a major drawback. Factor analysis should lead to clear identification of the dimensions of the symptoms that the items were drawn from in the DSM-III. Although, the DSM-III provided few developmental considerations for adolescents or children, it may still be necessary for the items in this instrument to be revised to take into account the age of the students.

CHAPTER 4

Summary and Conclusions

The present review has examined several issues related to adolescent depression. Specifically, (1) an overview of the major depressive disorder criteria for children and adolescents, (2) an overview of two well-articulated major theories that have attempted to explain the cause(s) of depression in adolescents, and (3) the psychometric adequacy of those self-report measures of adolescent depression that are related to the identified theories have been examined. After careful examination of the current literature, it is clear that questions still exist.

The CDI, BDI, and RADS are all easily utilized self-report assessment tools for the assessment of depressive symptoms. Although these three commonly used measures have been examined extensively in the literature, questions still remain regarding their theoretical foundations and psychometric characteristics.

For example, the CDI, which was modeled after the BDI and intended to utilize Beck's cognitive triad, seems to examine many more factors than is suggested by the theoretical framework from which it evolved. The present factor dimensions of the CDI do not correspond with the components of depression, as proposed by the theory. Future directions might include sampling items directly from the domains of depression as noted by Beck's cognitive triad.

The BDI is one of the oldest and most commonly used assessment measures used today. However, the items for this self-report measure were intended to correspond with

the Beck's cognitive triad theory, and they do not. The factor structure for the BDI indicates that the measure is not a reliable measure of the dimensions of depression as suggested by Beck's cognitive theory of depression. Thus, the BDI should be used solely as a measure of depression severity, and not as measuring the specific dimensions of depression. Similar to the recommendations for the CDI, future research might include sampling items directly from the domains of depression as noted by Beck's theory.

The RADS is the only self-report measure intended to specifically assess depressive symptoms in adolescents. However, it has several limitations. The RADS was designed to evaluate depression based on the criteria set forth by the DSM-III. However, as discussed earlier, the diagnostic criteria currently utilized does not thoroughly address developmental concerns of adolescents but simply applies adult criteria to youth. Furthermore, the limited studies that have been conducted to evaluate the factorial structure of the RADS is a major drawback and is essential to establish the construct validity of this measure. An additional area for future research includes investigating items that tap into social skills deficits, problem solving skills deficits, and learned helplessness as identified by the behavioral theories.

Depression is one of the most common psychological disorders shared by adolescents and children, affecting all aspects of their lives. Research tells us that depressive syndromes may lead to school failure, drug abuse and mental health problems later in life. For the school psychologist, it becomes essential to be able to recognize, assess, and provide interventions for these students. In order for the school psychologist

to be effective in recognizing depressive symptoms in adolescents, it is necessary to have measures that accurately define and assess the symptoms of depression. Without valid measures, the school psychologist will not be able to accurately identify those students who may be in need of help for immediate intervention or referral.

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