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Cognitive-Behavioral Interventions for Depression: Review and Implications for School Personell

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ABSTRACT: Depression is one of the most commonly diagnosed psychiatric disorders among school-age youths. As such, school personnel should play an important role in the identification, assessment, and treatment of depression and related problems in school. School-based treatment of depression is especially relevant for students with emotional and behavioral disorders (EBD) and learning disabilities (LD) because they may be at a higher risk than their nondisabled peers of displaying depressive symptomatology. Cognitive-behavioral interventions (CBIs) have shown promise as an evidence-based treatment for childhood and adolescent depressive disorders. This article focuses on how CBI techniques can be used by school personnel under the proper clinical supervision for reducing students' depressive symptomatology. First, common CBI techniques are described. Second, empirical studies using CBI to treat children and adolescents who are depressed are reviewed. Finally, implications for using these techniques in a collaborative effort among school psychologists, counselors, and special educators in an ethical and valid manner are presented.

■ Depression is a mood (affective) disorder that affects approximately 2% of children and adolescents in the general population (Kashani et al., 1983; Kashani & Simonds, 1979). Once considered exclusively the domain of psychiatry, depressive disorders can and should be considered by school personnel in the identification, assessment, and treatment of depression (Reynolds & Stark, 1987). Students with emotional and behavioral disorders (EBD) and learning disabilities (LD) may be particularly at risk for developing depression. For example, Maag and Behrens (1989a) found that about 21% of EBD and LD students experienced significant depressive symptomatology. However, an important distinction should be made between depressive symptomatology and the clinical disorder:

As a symptom, depression refers to sad affect and as such is a common experience of everyday life. As a syndrome or disorder, depression refers to a group of symptoms that go together. Sadness may be part of a larger set of problems that include the loss of interest in activities, feelings of worthlessness, sleep disturbances, changes in appetite and others. (Kazdin, 1990, p. 121).

These distinctions may explain part of the discrepancies and debate over the actual prevalence of depression among students with EBD and LD. For example, Maag and

Reid (1994) found that 10% of students with disabilities experienced significant depressive symptomatology. However, only 2% of students with LD obtained Beck Depression Inventory (BDI) scores that corresponded to levels of clinical depression (> 31). This prevalence estimate is the same that exists in the general population of young people. In their meta-analytic review Maag and Reid (in press) concluded that, although students with LD have statistically greater depressive symptomatology than their nondisabled peers, the magnitude was most likely not great enough to place them in the clinical range for a depressive disorder.

Regardless of the exact prevalence of depressive disorders among students with EBD and LD—which would prove difficult to accurately determine in the absence of using clinical interviews—the potential increased risk for students with EBD and LD to experience depression has direct implications for educators. First, school personnel should play an important role in identifying (but not diagnosing) students who may be depressed. Youths spend more time in school than in most structured environments outside the home, and have their most consistent and extensive contact with trained professionals in the school setting. Furthermore, students' behaviors, interpersonal relationships, and academic performance—all important indicators of mood and the ability to

cope—are subject to ongoing scrutiny in the classroom. Accordingly, school personnel may be the first professionals to notice a burgeoning depressive disorder (Powers, 1979; Stark, 1990). Second, students with EBD and LD who are depressed may be best served with counseling as a related service (Maag & Katsiyannis, 1996; Yell, 1998). There are a variety of school-based intervention strategies to treat depression in youths (e.g., Clarke, DeBar, & Lewinsohn, 2003; Reynolds & Stark, 1987; Stark, Kendall, et al., 1996). Third, many of the intervention techniques used to treat depression, such as social skills training, self-management training, and various cognitive-behavioral approaches, have all been used by special educators to address a variety of problematic behaviors (Maag, 1993).

Over 15 years ago, Reynolds and Stark (1987) began describing school-based intervention strategies to treat depression in children and adolescents and identified difficulties in implementing them. First, treating depression should not be approached in a cavalier fashion. Depression is a serious mental disorder that may have life-threatening consequences. Second, clinically trained individuals, such as school psychologists, counselors, and social workers, should work collaboratively with teachers to provide consultation in the development and implementation of interventions. Third, prevention may be the best approach for treating depression in schools. However, preventative approaches would require that teachers receive training in cognitive and behavioral techniques used for treating depression—something that only some special educators typically receive.

A variety of interventions have been used to treat depression in children and adolescents. Early nonpharmacological treatments were largely based on traditional psychodynamic theory (Anthony, 1970). Behaviorally oriented social skills training interventions emerged in the early 1980s (e.g., Frame, Matson, Sonis, Fialkov, & Kazdin, 1982; Petti, Bornstein, Delamater, & Conners, 1980; Schloss, Schloss, & Harris, 1984). Activity scheduling—a process that involves the systematic planning of a child's daily activities—has been recommended to increase activity level and reduce time spent in negative ideation (Reynolds & Stark, 1987; Stark, Kendall, et al., 1996). Three components of self-control training have been used to successfully treat depression in youths: self-monitoring, self-evaluation, and self-

reinforcement (e.g., Reynolds & Coats, 1986; Stark, Reynolds, & Kaslow, 1987). Finally, cognitive-behavioral interventions have probably received the most attention and offer the greatest nonpharmaceutical promise for treating childhood and adolescent depression (Clarizio, 1985). Results of recent research point to the combination of medication (i.e., fluoxetine) and cognitive-behavioral therapy as the “gold standard” for treating adolescent depression (Treatment for Adolescents With Depression Study [TADS] Team, 2004). Therefore, cognitive-behavioral interventions (CBI) are regarded as a major component for successfully treating depressive disorders.

CBIs focus on two general areas: cognitions and behavior. First, they target a young person's private speech about himself/herself, the environment, and his/her future. Interventions that are primarily cognitive in nature include, but are not limited to, self-instruction training, problem-solving training, attribution retraining, and the cognitive restructuring approaches such as Beck's (1976) cognitive therapy and Ellis's (1962) rational-emotive therapy (RET) (Braswell & Kendall, 1988; Maag, 1988). Second, virtually all effective CBI techniques with young people include behavioral components such as modeling, role playing, and positive reinforcement (Braswell & Kendall, 1988). Importantly, some researchers have documented a vital temporal sequence in cognitive and behavioral interventions for depressive disorders (Stark, Swearer, et al., 1996). In many cases, the implementation of behavioral interventions should precede cognitive interventions (Kaslow & Rehm, 1991; Maag & Forness, 1991). This sequence helps young people elevate their mood before they can engage in, and benefit from, cognitive restructuring.

The purpose of this article is threefold. First, CBI approaches for treating depression in children and adolescents are described. These descriptions include implementation steps and functions of behavioral techniques. Second, studies investigating the efficacy of CBI are reviewed. This review is designed to identify intervention and participant characteristics, settings, and dependent measures that empirically validate the use of CBI. Third, implications for implementing CBI in school settings within a collaborative framework involving school psychologists, counselors, and special educators for reducing depressive symptomatology in students will be discussed.

CBI Techniques for Depression

CBI approaches underscore the complex relations among cognitive factors (cognitive content, products, structures), affect, overt behaviors, and the environment as contributing to various mental illnesses (Braswell & Kendall, 1988). These factors can be traced back to Luria's (1961) and Vygotsky's (1962) developmental theories of the functional relation between language and behavior. Several years after the work of Luria and Vygotsky, Neisser (1967) wrote the text, *Cognitive Psychology*, which represented the first extensive treatment of cognitive processes such as memory, attributions, problem solving, and self-referent speech. Research on these topics led to the development of a variety of cognitive therapies. In this section, four of the most common CBI techniques will be described. They are all designed to change the maladaptive style of processing information that is common among students with depression (Reynolds & Stark, 1987; Stark, Sander, Yancy, Bronik, & Hoke, 2000).

Self-Instruction Training

Self-instruction training was developed by Meichenbaum and Goodman (1971) for use with impulsive students and has been adapted for youth with depressive disorders (Stark et al., 2000). The goal is to teach young people positive self-talk as a means of helping them gain self-control over certain aspects of depression, such as countering negative self-statements with positive ones (Lewinsohn & Clarke, 1999).

Meichenbaum's five-step self-instruction program focused on providing students with their own verbal prompts for performing certain behaviors:

1. *Cognitive Modeling*. The teacher performs a task while talking aloud; the student observes.
2. *Overt External Guidance*. Both the student and teacher perform the task while talking aloud together.
3. *Overt Self-Guidance*. The student performs the task using the same verbalizations as the teacher.
4. *Faded Self-Guidance*. The student whispers the instructions (often in an abbreviated form) while going through the task.
5. *Covert Self-Guidance*. The student performs the task, guided by covert self-speech.

Several factors will enhance the effectiveness of students using self-talk (Braswell & Kendall, 1988; Harris, 1982; Kendall, 1977). First, self-instructions should initially be limited to three words, a short phrase, or perhaps a brief sentence at most. Second, the target student should generate the exact wording of the self-statement. Third, a student is more likely to use self-instructions when they are targeted to increase or decrease the specific behavior, rather than vague statements such as "I need to concentrate." Fourth, a student should be reinforced for using self-instructions, thereby increasing the likelihood that he/she will use them again.

Attribution Retraining

Attribution retraining is based on the premise that a child's explanations for why he/she is performing well or poorly have implications for his/her behavioral persistence, expectancies for future performance, and emotional reactions to success and failure (Braswell & Kendall, 1988). Young people who are depressed attribute negative events to internal, stable, and global attributions and attribute positive events to external, unstable, and specific attributions (Hughes, 1988). These young people are taught to attribute failure to more external, unstable, and specific factors and make attributions for success to more internal, stable, and global factors (Reynolds & Stark, 1987; Stark et al., 2000). The goal is to reduce levels of learned helplessness common among some children who are depressed (Seligman & Peterson, 1986).

Licht and Kistner (1986) described two phases of attribution retraining. In Phase One, a student is set up to experience some degree of failure. The timing of this phase is crucial when working with students who are depressed. If it is not implemented carefully by a highly trained clinician, it could trigger a depressive episode. It is important that the contrived failure is not severe and sets the occasion for the student to acquire perseverance. In Phase Two, the student is taught to make statements that attribute the contrived failures to insufficient effort. Again, when working with students who are depressed, this phase needs to be tailored so that insufficient effort is interpreted as requiring the use of effective problem-solving strategies. Otherwise, thoughts of hopelessness may be exacerbated.

In order to be effective, attributional

statements should be accompanied with specific behavioral efforts. For example, Short and Ryan (1984) found that attribution retraining was ineffective when students made effort-oriented statements prior to reading a passage, rather than after having had difficulty with the passage. In addition, attribution retraining will be most effective for students who are not using skills they already possess—it would not be an appropriate technique for students who have specific skill deficits (Fincham, 1983; Schunk, 1983).

Problem-Solving Training

Some type of problem-solving training is incorporated into almost every CBI technique (Braswell & Kendall, 1988). It represents a variety of skills that can be used to resolve conflicts that require either initiation of action or reaction to the responses of others (Gesten, Weissberg, Amish, & Smith, 1987). Problem-solving skills may help students who are depressed develop alternative solutions to problems that may be otherwise thought of as insurmountable. For example, an adolescent boy may be feeling depressed because his girlfriend broke up with him. Problem-solving training may help him generate ways to feel better. It is also a way to change a depressed youngster's locus of control orientation from external to internal (Nezu, 1986).

D'Zurilla (1988) described a problem-solving model for young people under the direction of a practitioner:

1. *Problem Orientation.* A set of facilitative cognitions are provided to help recognize problems and know how to deal with them in appropriate ways.
2. *Problem Definition and Formulation.* Pertinent information is assembled to clarify the nature of the problem, set a realistic problem-solving goal, and reappraise the significance of the problem.
3. *Generation of Alternative Solutions.* As many solution alternatives as possible are generated to increase the chance that the best solution will be considered.
4. *Decision Making.* The available solution alternatives are evaluated and the best one(s) are selected to use.
5. *Solution Implementation and Verification.* The solution outcome is assessed and the effectiveness of the chosen solution in the real-life situation is verified.

A variety of interpersonal problem-solving training programs exist for elementary and secondary students (Mufson, Moreau, Weissman, & Klerman, 1991; Shure & Spivack, 1974; Siegel & Spivack, 1973). Gesten et al. (1987) described several factors that may guide the selection of problem-solving curricula depending on the age of a student. First, the ability to generate multiple solutions, regardless of quality, is most effective for preschool and primary-grade students. It is especially important to help students who are depressed generate a variety of solutions because their depressogenic thinking often results in them not being able to generate multiple solutions or biases in thinking of how solutions will fail (Stark et al., 2000). Second, the quality of solutions (i.e., assertiveness and effectiveness), rather than quantity of solutions, is most important for middle school students. Finally, secondary students appear to require less training in solution generation or consequential thinking than in the means-ends thinking that is required to overcome obstacles and to implement successfully the chosen solutions.

Cognitive Restructuring

Cognitive restructuring is a global term used to describe techniques that focus on identifying and altering young people's irrational beliefs and negative self-statements. Its roots can be traced to Ellis' (1962) Rational-Emotive Therapy (RET) and Beck's (1967) cognitive therapy for depression. Both therapies basically teach young people to dispute irrational thoughts through the use of logical analysis and abstract thinking (Hughes, 1988).

Rational-Emotive Therapy (RET)

RET was perhaps the first cognitively oriented therapy to be used with children—a fact not commonly known, perhaps because RET remained relatively independent of other cognitive-behavioral therapies for some years (Clarizio, 1985). Ellis (1962) based RET on the premise that most everyday emotional problems and behaviors stem from irrational self-statements we tell ourselves when events in our lives do not turn out as we would like (e.g., awfulizing, demandingness, damnation, always and never thinking). Ellis' therapeutic approach is to teach young people to counteract irrational beliefs with more positive and realistic statements. The emotive aspects of RET focus

on children changing their irrational beliefs by exaggerating them in ways that show their ridiculousness or phoniness, such as through the use of humor. The behavioral component of RET is reflected by encouraging a young person to act in ways that contradict irrational ideas.

According to a RET model, depression has crucial cognitive and philosophic elements, which include absolutistic, dogmatic shoulds, oughts, and musts, that are absent from peoples' appropriate feelings of sadness (Ellis, 1987). Combating these factors may help improve the self-image of young people who are depressed (Aust, 1984; DiGiuseppe & Bernard, 1983). It is important for practitioners to take into consideration young people's linguistic and cognitive development, both in their ability to acknowledge the existence of a problem and to internalize a philosophy of life that is more rational and realistic than the ones they commonly engage in when experiencing depression (Clarizo, 1985).

Cognitive Therapy for Depression

Although cognitive therapy for depression was developed independently by Beck (1976), it has much in common with Ellis' RET. Like Ellis, Beck and his colleagues described several dysfunctional thinking styles (e.g., overgeneralization, magnification and minimization, personalization, dichotomous thinking). The first step in Beck's approach is to have a young person identify dysfunctional thoughts and maladaptive assumptions that may be contributing to feelings of depression. A child may be instructed to recall or imagine situations that elicited such emotions and to focus on the thoughts experienced in those situations. Next, Beck recommended the use of several techniques to counteract the debilitating thought or dysfunctional assumption contributing to depression. One popular technique is called "reality checking" or "hypothesis testing." After the young person has identified the debilitating belief or thought and has learned to distinguish it as a hypothesis rather than as a reality, he/she is then in a position to test it experimentally (Martin & Pear, 2003). For example, if a girl believes that everyone who smiles is teasing her, then she might be helped to devise a system for reading context and judging peers' facial expressions and body language so that she can determine objectively if the thoughts behind her problem are indeed accurate.

Review of CBI Research for Young People Who Are Depressed

The extant literature on CBI with children and adolescents who are depressed is often punctuated by more reviews than actual treatment outcome studies. Despite this fact, there are two reasons for providing yet another review here. First, because the purpose of this article is to present CBI techniques for young people who are depressed, it is important for readers to be familiar with the research upon which the theoretical foundation is based. Second, this review lays the groundwork for subsequent recommendations for school-based use of CBI for children and adolescents who are depressed.

The following parameters were used to obtain articles for this review. First, a search of the PsychINFO database was conducted using the descriptors child/adolescent depression, cognitive-behavioral interventions/therapy/modification. This database was searched for articles beginning in 1980 and continuing to October, 2004. The year 1980 was selected because that was when published reports of nonsomatic treatment of childhood and adolescent depression began appearing in the literature. Second, an ancestor search was conducted of all articles that met inclusion criteria. Third, references were examined from review articles obtained from 1980 to October 2004 that reported on CBI and childhood/adolescent depression. Three articles specifically contained reviews of CBI (Marcotte, 1997; Reinecke, Ryan, & DuBois, 1998; Southam-Gerow, Henin, Chu, Marrs, & Kendall, 1997) whereas six focused more generally on psychological treatments for which CBI was included (Birmaher, Ryan, Williamson, Brent, & Kaufman, 1996; Curry, 2001; Finn, 2000; Harrington, Whittaker, & Shoebridge, 1998; Lewinsohn & Clarke, 1999; Sherrill & Kovacs, 2002). Fourth, only studies investigating the efficacy of CBI as an approach for treating, rather than preventing, depression were included. A total of 22 studies were obtained and are summarized in Table 1.

CBI Components

CBI has been defined as techniques for promoting emotional and behavioral change by teaching children to change thoughts and cognitive processing in an overt, active, and

TABLE 1
Effective Cognitive-Behavioral Interventions for
Depressive Disorders in Children and Adolescents

<i>Study</i>	<i>CBI Components</i>	<i>Participants</i>	<i>Setting</i>	<i>Design</i>	<i>Dependent Measures</i>	<i>Results</i>
Asarnow & Carlson (1988)	Self-monitoring, identifying and testing irrational cognitions, role playing, reinforcement, problem solving, activity scheduling	10-year-old female	Psychiatric hospital	Case study	DSRS, CDRS, K-SADS, SAICA	Short term improvement in DSRS and CDRS scores; changes in K-SADS and SAICA at 5-year follow-up
Brent et al. (1997)	Collaborative empiricism; monitoring and modification of automatic thoughts, assumptions, and beliefs	37 adolescents, age 13–18 (76% females)	Psychiatric hospital	Group design	K-SADS, BDI, DSM-III MDD, CGAS	Improvement on all measures; no follow-up
Butler et al., (1980)	Recognize irrational automatic thoughts, adopt logical thinking, enhance listening skills, recognize relation between thoughts and feelings	56 fifth and sixth graders (35 males, 21 females)	Public school	Group design	SES, CDI, MMSAQ, NSLCSC	Statistically significant improvement in CDI and NSLCSC, but role-play condition was more effective; no follow-up
Clarke et al. (1992)	Relaxation training, increasing pleasant events, problem-solving training, controlling irrational thoughts	59 adolescents	Psychiatric hospital	Group design	BDI, K-SADS	Improvements in BDI and K-SADS scores but not total correspondence; results maintained after 6 months
Clarke et al. (1995)	Identify and challenge irrational beliefs, role playing, group discussions	150 adolescents, mean age 15.3	High school	Group design	CES-D, HDRS, GAF	Significantly fewer cases of depression; results maintained at 12-month follow-up
Clarke et al. (1999)	Mood monitoring, improving social skills, activity scheduling, communication training, conflict resolution training	96 adolescents (70.8% females)	Outpatient clinic	Group design	BDI, HDRS, K-SADS-E, GAF, CBCL	Positive results on all measures; 100% recovery at 12 months, 35.7% recovery at 24 months
DiSalvo & McCullough (2002)	Multistep, structured, manualized therapy focused on how actions impact and shape environmental circumstances with problem-solving component	16-year-old female adolescent	Outpatient clinic	Case study	MMPI-A, CDI	Improvements in MMPI-A and CDI scores; no follow-up
Friedberg et al. (2003)	Manualized approach with cognitive priming, self-monitoring, self-instruction, rational analysis skills, behavioral experimentation	Eight children, mean age 8.8 (seven males, one female)	Outpatient clinic	Case study	CDI, RCMAS	Improvements in CDI and RCMAS; some regression but not to pretreatment levels at 9-month follow-up

TABLE 1 (continued)
**Effective Cognitive-Behavioral Interventions for
 Depressive Disorders in Children and Adolescents**

<i>Study</i>	<i>CBI Components</i>	<i>Participants</i>	<i>Setting</i>	<i>Design</i>	<i>Dependent Measures</i>	<i>Results</i>
Gaynor & Lawrence (2002)	Multistep, structured, manualized therapy focused on friendliness skills, self-monitoring, pleasant event scheduling, cognitive restructuring, problem solving	Ten adolescents, age 13–18	Outpatient clinic	Open clinical trial format	BDI, HRSD	Improvements in BDI and HRSD scores; improvements maintained at 3-month follow-up
Gaynor et al. (2003)	Test pessimistic beliefs, improve problem solving, affect regulation and social skills	87 adolescents, age 13–18	Outpatient clinic	Group design	BDI, CGAS, K-SADS	39% experienced decreases in depression; treatment gains maintained on BDI at 3-month follow-up
Jayson et al. (1998)	Recognizing and labeling emotions, enhancing social skills, changing negative cognitive attributions	50 adolescents, mean age 14.6 (15 males, 36 females)	Outpatient clinic	Group design	K-SADS, MFQ, C-GAS	Participants with lower C-GAS scores obtained better results than those with higher scores; no follow-up
Kahn et al. (1990)	Constructive thinking, self-monitoring, self-reinforcement, pleasant events scheduling, role playing, problem solving, social skills training	69 adolescents, age 10–14 (33 males, 36 females)	Middle school	Group design	RADS, BID, CDI	Positive changes in all dependent measures; improvements maintained at 1- and 6-month follow-up
Kolko et al. (2000)	Collaborative empiricism, socialization to cognitive model, self-monitor automatic thoughts, problem solve, affect regulation	103 adolescents, mean age 15.6 (75% females)	Outpatient clinic	Group design	K-SADS-P/E, BDI, BHS, CNCEQ, CBQ, ACQ, FAD, LW-MAT	Reductions in cognitive distortions and anxiety; some improvements maintained at 24-month follow-up
Kroll et al. (1996)	Central elements of Beck's (1967) cognitive therapy, social problem solving, activity scheduling	29 adolescents, mean age 13.7 (12 males, 17 females)	Psychiatric hospital	Group design	K-SADS, MFQ	Less than 0.2% relapse compared to 0.5% for control group; fewer relapses at 6-month follow-up
Lewinsohn et al. (1990)	Increasing pleasant activities, relaxation, controlling depressive thoughts, improving social interaction, conflict resolution	59 adolescents, mean age 16.9 (61% females)	Outpatient clinic	Group design	K-SADS-E, BDI, CES-D	Improvements in all measures; gains maintained at 2-year follow-up
Liddle & Spence (1990)	Problem solving, Beck's (1967) cognitive therapy, instructions, discussion, modeling, role playing, feedback, reinforcement	31 children, age 7–11 (21 males, 10 females)	Catholic primary schools	Group design	CDI, CDRS, MESSY, LSSP	Decline in depression scores; decreases maintained at 2-month follow-up

TABLE 1 (continued)
Effective Cognitive-Behavioral Interventions for
Depressive Disorders in Children and Adolescents

<i>Study</i>	<i>CBI Components</i>	<i>Participants</i>	<i>Setting</i>	<i>Design</i>	<i>Dependent Measures</i>	<i>Results</i>
Reynolds & Coats (1986)	Emphasized training of self-control skills including self-monitoring, self-evaluation, and self-reinforcement	30 adolescents, mean age 15.65 (11 males, 19 females)	High school	Group design	RADS, BDI, BID, RSES, ASCS-HS, STAI	Improvements on all measures; gains maintained at 5-week follow-up
Rhode et al. (1994)	Increasing pleasant activities, relaxation, controlling depressive thoughts, improving social interaction, conflict resolution training	115 adolescents, mean age 16.3 (69.9% females)	Outpatient clinic	Group design	K-SADS-E, BDI, HDRS, GAF	Improvements on all measures; no follow-up
Rossello & Bernal (1999)	Identify how thoughts, daily activities, and interactions with others influence mood	71 adolescents, mean age 14.7 (54% females)	Outpatient clinic	Group design	CDI, PHCSCS, SASCA, FEICS, CBCL	Significant reduction in CDI scores; gains maintained at 3-month follow-up
Stark et al. (1987)	Self-monitoring, self-evaluation, attributing cause of good and bad outcomes, self-consequating	29 children, age 9-12	Elementary school	Group design	CDI, CDS, CDRS-R, CBCL CSEI, RCMAS	Significant improvements on all measures; results maintained at 8-week follow-up
Vostanis et al. (1996)	Recognition and labeling of emotions, enhancement of social skills, changing negative cognitive attributions	57 children	Outpatient clinic	Group design	K-SADS, SAIC, MFQ, RCMAS	Significant improvement on all measures; gains maintained at 9-month follow-up
Wood et al. (1996)	Combat negative thinking styles based on Beck's (1967) cognitive therapy, social problem solving, activity scheduling	33 children and adolescents, mean age 14.2 (69% females)	Outpatient clinic	Group design	MFQ, RCMAS, WJS, ABS	Significant reductions in depression; results maintained at 3- and 6-month follow-up

ABS = Antisocial Behavior Scale
 ACQ = Adaptation in the Area of Change Questionnaire
 ASCA-HS = Academic Self-Concept Scale High School Version
 BDI = Beck Depression Inventory
 BHS = Beck Hopelessness Scale
 BID = Bellevue Index of Depression
 CBCL = Child Behavior Checklist
 CBQ = Conflict Behavior Questionnaire
 CDI = Children's Depression Inventory
 CDRS = Children's Depression Rating Scale
 CDRS-R = Children's Depression Rating Scale-Revised
 CDS = Child Depression Scale
 CES-D = Center for Epidemiological Studies - Depression Scale
 CGAS = Children's Global Assessment Scale
 CNCEQ = Children's Negative Cognitive Errors Questionnaire
 CSEI = Coopersmith Self-Esteem Inventory

DSM-III MDD = Diagnostic and Statistic Manual of Mental Disorders (3rd) Major Depressive Disorder
 DSRS = Depression Self-Rating Scale
 FAD = Family Assessment Device
 FEICS = Family Emotional Involvement and Criticism Scale
 GAF = DSM-III Global Assessment of Functioning Scale
 HDRS = Hamilton Depression Rating Scale
 K-SADS = Schedule for Affective Disorders and Schizophrenia for School-Age Children
 K-SADS-E = Schedule for Affective Disorders and Schizophrenia for School-Age Children-Epidemiologic version
 LSSP = List of Social Situation Problems
 LW-MAT = Locke-Wallace Marital-Adjustment Test
 MESSY = Matson Evaluation for Social Skills for Youngsters
 MFQ = Mood and Feelings Questionnaire

MMSAQ = Moyal-Miezitis Stimulus Appraisal Questionnaire
 NSLOCSC = Nowicki-Strickland Locus of Control Scale for Children
 PHCSCS = Piers-Harris Children's Self-Concept Scale
 RADS = Reynolds Adolescent Depression Scale
 RCMAS = Revised Children's Manifest Anxiety Scale
 RSES = Rosenberg Self-Esteem Scale
 SAICA = Social Adjustment Inventory for Children and Adolescents
 SASCA = Social Adjustment Scale for Children and Adolescents
 SES = 15-item reduced version of the Piers-Harris Children's Self-Concept Scale
 STAI = State-Trait Anxiety Inventory
 WJS = Warr and Jackson Self-Esteem Scale

problem-oriented way (Reinecke et al., 1998). Kendall and MacDonald (1993) described the goal of CBI as identifying distorted processing, helping children to modify their distorted thinking and teaching them new coping processing styles. All 22 studies described methods that fall under these rubrics, to varying degrees of specificity. In addition, problem-solving techniques, another form of CBI, were incorporated into nine studies (Asarnow & Carlson, 1988; Clarke, Hops, Lewinsohn, & Andrews, 1992; DiSalvo & McCullough, 2002; Gaynor & Lawrence, 2002; Kahn, Kehle, Jenson, & Clarke, 1990; Kolko, Brent, Baugher, Bridge, & Birmaher, 2000; Kroll, Harrington, Jayson, Fraser, & Gowers, 1996; Liddle & Spence, 1990; Wood, Harrington, & Moore, 1996).

Behavioral components such as activity scheduling, reinforcement, modeling, rehearsal, and role playing were used less frequently. Activity scheduling (i.e., increasing pleasant events) was the most common behavioral technique and was used in nine studies (Asarnow & Carlson, 1988; Clarke et al., 1992; Clarke, Rohde, Lewinsohn, Hops, & Seeley, 1999; Gaynor & Lawrence, 2002; Kahn et al., 1990; Kroll et al., 1996; Lewinsohn, Clarke, Hops, & Andrews, 1990; Rhode, Lewinsohn, & Seeley, 1994; Wood et al., 1996). Two studies incorporated reinforcement (Asarnow & Carlson; Liddle & Spence, 1990) and four studies included modeling and/or role playing (Asarnow & Carlson; Clarke et al., 1995; Kahn et al.; Liddle & Spence). Conversely, self-control techniques—which have been conceptualized both from cognitive and behavioral orientations—were used as often as problem-solving training. Specifically, eight studies employed self-monitoring, self-evaluation, and/or self-reinforcement (Asarnow & Carlson; Clarke et al., 1999; Friedberg et al., 2003; Gaynor & Lawrence; Kahn et al.; Kolko et al., 2000; Reynolds & Coats, 1986; Stark et al., 1987). Two other techniques, which could also fall under both cognitive and behavioral strategies, were social skills training (Gaynor et al., 2003; Kahn et al.) and relaxation training (Lewinsohn et al., 1990).

Specific CBI treatment protocols and therapist training were described in over half the studies (Clarke et al., 1995; Clarke et al., 1999; DiSalvo & McCullough, 2002; Friedberg et al., 2003; Gaynor & Lawrence, 2002; Jayson, Wood, Kroll, Fraser, & Harrington, 1998; Kahn et al., 1990; Kroll et al., 1996; Lewinsohn et al., 1990; Rhode et al., 1994; Rossello & Bernal,

1999; Vostanis, Feehan, Grattan, & Bickerton, 1996; Wood et al., 1996). However, the number and length of sessions varied greatly from eight sessions with length not specified (Jayson et al.) to 40 sessions, also with no length specified (DiSalvo & McCullough). Other studies presented very specific information. For example, Gaynor et al. (2003) conducted 16 two-hour sessions over 8 weeks.

In summary, the most prominent cognitive intervention strategies for depression in young people were some form of Beck's (1967) cognitive therapy. In addition, problem-solving training, self-control training, and activity scheduling were typically incorporated into most of the therapies. Finally, number and length of sessions varied greatly across studies.

Participants and Settings

All participants were diagnosed as having a depressive disorder using DSM clinical criteria (the edition of the DSM would vary depending on when the study was conducted). Both semi-structured interviews such as the Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS), and self-report rating scales such as the Beck Depression Inventory (BDI) were used to make the diagnosis. Participants were more likely to be either females or male and female adolescents. Females were either the sole focus or a substantially larger percentage of participants for nine studies (Asarnow & Carlson, 1988; Brent et al., 1997; Clarke et al., 1999; DiSalvo & McCullough, 2002; Jayson et al., 1998; Kolko et al., 2000; Reynolds & Coats, 1986; Rhode et al., 1994; Wood et al., 1996). Only five studies focused on children (Asarnow & Carlson; Butler, Mieztis, Friedman, & Cole, 1980; Friedberg et al., 2003; Liddle & Spence, 1990; Stark et al., 1987). Two studies had both children and adolescents as participants (Kahn et al., 1990; Wood et al.,). Regardless of age, the number or percentage of female versus male participants was not specified in five studies (Clarke et al., 1992; Clarke et al., 1995; Gaynor & Lawrence, 2002; Gaynor et al., 2003; Rhode et al.).

Most of the studies (73%) were conducted at psychiatric hospitals ($n = 4$) or mental health clinics on an outpatient basis ($n = 12$). Unfortunately, it does not appear that the six studies conducted in school settings represented a recent trend. The first study using CBI to treat children and adolescents who were depressed was conducted in a

public school setting (Butler et al., 1980); however, this was not the norm across the studies reviewed. The most recent study included in this review that was conducted in a school setting was still a decade old at the time this article was published (Clarke et al., 1995). Half the studies reviewed were conducted after 1995 in psychiatric hospitals or outpatient mental health clinics. Therefore, it is difficult to generalize the efficacy of CBI for use in school settings from only six studies—only three of which were published after the decade of the 1980s (Clarke et al., 1995; Kahn et al., 1990; Liddle & Spence, 1990). Nevertheless, a review of a larger group of studies of CBIs for depression can inform us as to important aspects of treatment for depression that could be relevant to school-based efforts.

Designs and Dependent Measures

The majority of studies reviewed employed some type of traditional group design (81%). There were three case studies (Asarnow & Carlson, 1988; DiSalvo & McCullough, 2002; Friedberg et al., 2003) and one open clinical trial format (Gaynor & Lawrence, 2002). There were no studies that employed single subject designs. This omission may be expected because depression is primarily a disorder of affect. That is not to say that single subject methodology could not be used to determine changes in weight, sleep patterns, and pleasant interactions with others. However, this approach was more often to be employed in traditional (i.e., skills deficit model) social skills training studies with young people who were depressed (e.g., Frame, et al., 1982; Schloss, et al., 1984).

The CBI studies reviewed used a combination of diagnostic interviews for depressive disorders, self-report depression inventories, and ratings of depression completed by others. A variety of related constructs were also assessed before and after treatment, including, but not limited to, social adjustment, self-concept, locus of control, anxiety, hopelessness, and social adjustment. Only one study collected direct observations of overt behaviors (Kahn et al., 1990); although no treatment of this data is provided in the results section. The lack of targeting overt behaviors was probably for the same reason none of the studies employed single subject designs.

Results and Follow-Up

In every study, CBI had a positive impact on depression in the reduction of scores on measures of depression and related constructs and/or fewer cases of diagnosed depression and relapses. However, results are less conclusive in the 11 studies that compared CBI to other treatments. Four studies found CBI superior to either systemic behavior family therapy or nondirective supportive therapy, social competence training, or relaxation training (Brent et al., 1997; Clark et al., 1999; Gaynor et al., 2003; Wood et al., 1996). In eight studies, no differences were obtained between CBI and CBI for adolescents and parents (Clarke et al., 1999; Lewinsohn et al., 1990; Rhode et al., 1994) and other treatments including relaxation training, interpersonal psychotherapy, behavioral problem solving, nonfocused intervention, and self-modeling (Kahn et al., 1990; Reynolds & Coats, 1986; Rossello & Bernal, 1999; Stark et al., 1987; Vostanis et al., 1996). In an early study, role playing was superior to CBI (Butler et al., 1980).

An encouraging finding was that a majority of the studies (77%) conducted some type of follow-up. In all cases, treatment gains were maintained to some degree. The shortest follow-up was 2 months (Liddle & Spence, 1990) and the longest was 5 1/2 years (Asarnow & Carlson, 1988). Two studies collected follow-up at multiple times (Clarke et al., 1992; Kahn et al., 1990). Follow-up occurred four times during the Clarke et al. study—at 1, 6, 12, and 24 months—but treatment gains were only maintained up to 6 months.

Implications for School Personnel

Researchers have demonstrated that CBI is an evidenced-based approach for treating depressive disorders in children and adolescents—at least in clinical settings. The question remains as to whether CBI is a viable approach for school personnel. Results were encouraging but somewhat dated. Of the six CBI studies conducted in school settings, three used currently employed school psychologists and school counselors as therapists (Clarke et al., 1995; Kahn et al., 1990; Reynolds & Coats, 1986). Graduate students at various levels of training (e.g., post graduate, doctoral, graduate) in applied and clinical psychology

served as therapists in the other three studies (Butler et al., 1980; Liddle & Spence, 1990; Stark et al., 1987). Therefore, CBI appears to have the potential for school personnel to use for treating depressive symptomatology in students with EBD and LD as well as those who are at risk.

The most troubling aspect of these studies is that the most recent one is already 10 years old at the time of this article. It is puzzling why more CBI efficacy studies have not been conducted using school psychologists and counselors as primary therapists and special educators as ancillary agents because they have been shown to be effective treatment providers (Clarke et al., 1995; Kahn et al., 1990; Reynolds & Coats, 1986). It is also puzzling why the application of CBI, which has clearly been demonstrated to be effective in clinical settings, has not progressed into school settings. Nevertheless, there are many palliative techniques school personnel can implement to help students who are depressed or experiencing depressive symptomatology—from school psychologists and counselors providing direct therapy to special educators playing an ancillary role. These issues are discussed here and form the basis for future research.

Primary Roles of School Psychologists and Counselors

School psychological and counseling services have evolved to the point of considerable compatibility (Murphy, DeEsch, & Strein, 1998). Training accreditation standards for both professions include skill development in the areas of assessment, consultation, and counseling and in facilitating the delivery of comprehensive services within a multidisciplinary team concept (Council for the Accreditation of Counseling and Related Educational Programs, 1994; National Association of School Psychologists, 1994). In addition, school psychologists and counselors alike obtain licenses in their respective areas that permit them to conduct psychotherapy and receive third party reimbursement. They also have unique training and expertise that complement each other—especially when it comes to addressing the needs of students who display depressive symptomatology. Specifically, school counselors have skills in small group counseling, large group developmental interventions, and vocational

and career development. School psychologists possess expertise in applied behavior analysis, cognitive and personality assessment, individual therapy, and organizational consultation. Although there are some administrative, professional, and personal barriers, the partnership between school psychologists and counselors could greatly enhance outcomes for students with depression.

The ensuing discussion of the roles of school psychologists and counselors is couched within the clinically accepted framework of prevention, treatment, and maintenance (Institute of Medicine, 1994). The traditional classification system of primary, secondary, and tertiary prevention was based on the implied link between the cause and occurrence of a disease—a system that tended to be linear and case-based and had considerable overlap between prevention and intervention phases. Conversely, the Institute of Medicine's (IOM) framework is more risk/population-based, makes specific distinctions between prevention and treatment, and pays attention to multiple layers of risk and protective factors and their mutual effects.

Roles of School Psychologists

Although many school psychologists serve primarily as assessment specialists, there are many schools and school districts that utilize school psychologists' expertise in counseling and consultation. The school psychologist can play a vital role in assessing students who may experience a depressive disorder and then working with these students and their families to obtain appropriate services. These services may either be delivered or supervised by the school psychologist or the school psychologist may refer the student and his/her family for professional care in the community.

Nastasi, Varjas, Bernstein, & Pluymert (1997) described four levels of services across which school psychologists can be involved either directly or indirectly in developing mental health programs in schools:

1. *Prevention*: helping a school choose a program for students to manage their feelings.
2. *Risk reduction*: helping counselors target students whose parents suffer from depressive disorders and work with these students in a support group.

3. *Early intervention*: helping preschool and elementary teachers recognize the signs and symptoms of depressive disorders.
4. *Treatment*: delivering direct treatment to students experiencing a depressive disorder.

Universal preventative measures may consist of the school psychologist implementing Reynold's (1986) three-stage screening to identify children and adolescents who were at risk for experiencing depression in school settings: (a) conducting large-group screening with self-report depression measures; (b) retesting, 3–6 weeks later, students who, on the basis of the large-group screening in Stage 1, meet cutoff score criteria for depression; and (c) conducting individual clinical interviews with students who manifest clinical levels of depression at both Stage 1 and Stage 2 evaluations. A selective preventative measure might include the school psychologist identifying students whose parents have a depressive disorder and then working with those students to educate them about the nature of depression and ways to cope with depressed mood. The third and fourth steps of early intervention and treatment includes case identification and standard treatment for known disorders. Educating teachers and school personnel in the identification of depressive symptomatology would be a vital component for referral. School psychologists can provide inservice training for teachers regarding the signs and symptoms of depression. Stark, Kendall, et al. (1996) developed a data-based treatment program for depression in youth that can be delivered in the school setting.

Nastasi and colleagues' (1997) delineation of the school psychologist's role in effective mental health services in the schools does not include IOM's (1994) maintenance component. However, school psychologists are well trained to aid in treatment maintenance by developing follow-up plans with depressed students and their parents. Additionally, school psychologists can help coordinate after-care plans with community providers. School psychologists are often the link to community mental health agencies and can help facilitate home-school-community communication (Cowan & Swearer, 2004).

Roles of School Counselors

One of the roles of school counselors for the past 20 years—at least at the elemen-

tary level—has been to conduct individual and group counseling (Hargens & Gysbers, 1984). More recently, school counselors have been assuming an increased role as mental health counselors (Lockhart & Keys, 1998). Nowhere is this role as important as in providing services for students who are depressed or experiencing depressive symptomatology. Evans, Van Velsor, and Schumacher (2002) described the role of school counselors in using CBI as that of active collaboration with the student. School counselors ask questions, summarize, get feedback, and promote alternative responses. This active approach fits well into the culture of schools and helps avoid awkward silences that make many students ill at ease (Evans & Murphy, 1997; Platts & Williamson, 2000). Evans et al. (2002) also described three classic levels of prevention using CBI that school counselors can undertake: primary, secondary, and tertiary.

Applying the IOM (1994) model, the recommendations of Evans et al. (2002) may be modified and elaborated on in the following ways. Primary prevention would be the responsibility of the school psychologist implementing Reynold's (1986) three-stage screening program described previously. Evans et al. also recommend the use of problem-solving and social skills training during this phase because the goal of these approaches is enhancing coping mechanisms and interpersonal abilities of students at risk for developing depression. Problem-solving techniques can help students confront issues they face in normal growth and development. Social skills training can promote positive socialization thereby giving students greater access to reinforcement, which is important to prevent depression. However, these two techniques more typically have been associated with the IOM treatment phase. Problem-solving training and social skills training have been used individually to treat depression and also have been incorporated into some CBI approaches (Maag & Forness, 1991; Stark, Swearer, et al., 1996). Evans et al. recommended that school counselors' role in maintenance would be to maintain open communication with community mental health care providers in order to monitor compliance with long-term goals and reduce the risk of relapse when after-care services are provided.

Ancillary Role of Special Educators

Special educators are not trained, nor do they hold licenses, to provide counseling services to students with disabilities. That is not to say, however, that they cannot play an important ancillary role. There is some evidence to suggest that students with EBD, LD, and mental retardation experience depressive symptomatology at higher levels than their nondisabled peers (e.g., Maag & Behrens, 1989b; Reynolds & Miller, 1985). In addition, special educators have received training in some of the techniques typically incorporated into CBI.

Self-monitoring has been used to improve students' academic achievement and decrease inappropriate social behaviors such as aggression and noncompliance (Reid, 1996; Webber, Scheuermann, McCall, & Coleman, 1993). In a review of research on self-monitoring, Reid concluded that it is an intervention repeatedly proved to be effective by any objective standard and easily incorporated into existing classroom structures and activities. Self-monitoring has been successfully used by special educators to increase appropriate verbalizations and decrease inappropriate verbalizations in students with EBD (DiGangi & Maag, 1992). It would be a simple matter to design self-monitoring sheets for students who are depressed to record the number and type of positive interactions they have with others and daily accomplishments.

Special education teachers have also successfully used a variety of CBI strategies for improving students' decoding and reading comprehension skills, vocabulary, spelling, writing, and mathematics (e.g., Pressley et al., 1990). However, there is an important distinction between CBI strategies used in teaching academics and in treating depression. Specifically, cognitive strategies for remediating academics assume the problem is a cognitive deficit. That is to say, a student is lacking a specific strategy to perform a given task. For example, a student may be competent at adding, subtracting, and multiplying numbers and yet not understand how to divide. What is lacking is a strategy to combine those prerequisite skills into competent performance. Conversely, cognitive distortions exist when an individual interprets information irrationally and in an erroneous fashion. In this case, CBI strategies would focus on teaching the individual to identify her maladaptive thoughts, dispute those thoughts, and replace them with more

adaptive ones. There is some research to suggest that the cognitive functioning of children and adolescents who are depressed is characterized more by negative self-evaluations than a lack of active information processing (Kendall, Stark, & Adam, 1990). Therefore, special educators' role may be to help a student follow through on personal experiments designed by the school psychologist or counselor to refute negative self-statements.

Teachers have been using social problem-solving curricula for many years. One of the earliest programs was developed by Shure and Spivack (1974) for use with preschoolers. Since then, other programs have been developed for use with elementary and high school students, both for prevention and intervention (Gesten et al., 1987). Classroom teachers have successfully served as trainers in many problem-solving training studies (Pellegrini & Urbain, 1985). Most published curricula contain easy-to-follow scripted lessons. Therefore, it would not be unreasonable to envision special educators carrying out problem-solving training lessons that were modified by the school psychologist or counselor for specific use with students who are depressed.

Conclusion

Depression is one of the most commonly diagnosed psychiatric disorders among school-age youths. As such, school personnel should play an important role in the identification, assessment, and treatment of depression and related school problems. School-based treatment of depression is especially relevant for special educators who work with students with EBD and LD because they may be at a higher risk than their nondisabled peers for developing depression. Three major areas were addressed in this article: (a) common CBI approaches; (b) review of CBI with school-aged youths; and (c) implications for school personnel.

Four of the most common CBI approaches were described: (a) self-instruction training; (b) attribution retraining; (c) problem-solving training; and (d) cognitive restructuring (Beck's cognitive therapy of depression and Ellis's RET). The first three approaches have been used in schools by special educators to teach academics and manage students' behavior problems. All four approaches have been used by school psychologists and counselors for treating depression.

A review of the literature was undertaken to determine the efficacy of CBI for treating depression in youths. The mainstay component of all studies was some version of Beck's cognitive therapy of depression. Most studies also included problem solving, self-monitoring, and activity scheduling components. Results of the reviewed studies support the use of CBIs for treating depression in youth. One discouraging finding was that only six studies were conducted in school settings and none of them were more recent than 1995. Therefore, it is difficult to generalize the efficacy of CBI from a relatively small number of studies. Nevertheless, positive results were found in all six studies.

School personnel may play important roles in the treatment of students who are depressed. Specifically, school psychologists, counselors, and special educators can work collaboratively. School psychologists can be involved in assessing students who may be depressed and in working to obtain appropriate services, which may either be delivered or supervised by them or they may refer the student and family to community mental health providers. School psychologists may also provide consultation to general and special education teachers. School counselors can provide direct individual and group counseling services to students who are depressed. Their role is especially important when students have a disability and require counseling as a related service. Special educators can play an important ancillary role for students with disabilities who are experiencing depression. Special educators have been trained in the use of many of the CBI techniques, including self-instruction training, problem-solving training, and self-monitoring. The school psychologist or counselor could modify these approaches for the special educator to deliver, under their supervision, to students who are depressed.

We hope that the amount of research conducted on CBI approaches in schools increases and that studies will begin to focus on collaborative efforts of school personnel. In addition, it appears that CBI can be used as a form of prevention with fairly young children. Considering that depression runs in families and is a lifelong problem, targeting increasingly younger school-age children would be helpful. Schools working in tandem with community mental health providers would represent the type of wrap-around services being advocated throughout the country.

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