School-Based Primary Prevention of Internalizing Disorders

Carol M. Moore

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SCHOOL-BASED PRIMARY PREVENTION

OF INTERNALIZING DISORDERS

by

Carol M. Moore

A paper submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Psychology
(School Psychology)

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2000
ABSTRACT

School-Based Primary Prevention of Internalizing Disorders

by

Carol M. Moore, Master of Science
Utah State University, 2000

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This paper provides an overview of childhood internalizing disorders, including the symptomatology, prevalence rates, comorbidity of other psychopathologies, correlated factors, treatment, and prognosis. Previous research in the area of primary and secondary prevention of depression and anxiety is reviewed, and the need for school-based prevention programs discussed. Several curricular and comprehensive elementary-level programs that are currently available and supported by research are reviewed to highlight their efficacy, theoretical rationale, targeted risk factors, and implementation concerns. Conclusions and recommendations for implementation and future research are presented.

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INTRODUCTION

Depression and anxiety are chronic disorders which have been identified as frequently beginning in childhood (Kovacs, 1996; Dadds, Holland, Laurens, Barret, & Spence, 1997). Both depression and anxiety fit within the category of internalizing disorders, so termed because of the tendency for sufferers' symptoms to be primarily self-directed (as opposed to externalizing disorders, in which the symptoms tend to be other-directed, e.g., aggression and oppositional behavior). The spectrum of internalizing psychopathology ranges from depressive or anxious symptomatology to diagnosable disorders; included in this spectrum are internalizing syndromes or clusters of behavioral characteristics. Any of these can adversely impact the child's social development and academic performance.

While it is uncertain exactly how many children are suffering from internalizing disorders, what is known is that few such children receive treatment. Untreated, internalizing disorders can continue to impair a person's functioning well into adulthood: depression alone was identified as the fourth leading cause of disease-burden (defined as a measurement of the number of years lost to premature death combined with number of years lived with a disability) in the world in 1990 (Murray & Lopez, 1996). Since the outcomes are potentially quite detrimental, it is preferable to intervene in the development of internalizing disorders and address anxiety and depressive syndromes prior to their evolution into a diagnosable disorder. Of even greater benefit would be the prevention of such syndromes through the fostering of resiliency in childhood. Thus, the development
of school-based preventative interventions for the childhood population would have far-reaching potential to improve the functioning of a large group of citizens.

The purpose of this paper is to explore various programs designed for implementation at the elementary school level that might prove efficacious in the prevention of internalizing disorders. A broad overview of depressive and anxiety disorders will first be presented, including the diagnostic criteria, prevalence rates, symptomatology, comorbidity, correlated factors, and effective treatments. This material is presented here in an effort to familiarize the reader with the scope and nature of the syndromes which the interventions seek to reduce, as well as reaffirm the necessity of prevention programs. Next, several key prevention studies will be reviewed. Finally, an array of prevention programs that were selected due to their strong research base, theoretical base, or linkages to associated factors will be described.

It should be noted at the outset of this discussion that the body of literature concerning childhood psychopathology in general, and depressive and anxiety disorders in particular, provides very little information regarding the differential nature of their manifestation and treatment in various ethnic and/or cultural populations. Thus, the material presented in this paper can only be assumed to be accurate within a generally middle-class Euro-American White population; future research with specific cultural groups is needed before affirming that suggested interventions and prevention measures might be equally efficacious for those populations.
Diagnostic Criteria

A brief overview of the DSM-IV diagnostic criteria for depressive and anxiety disorders, as applied to children, is given here in order to highlight specifically those pathologies that are the focus of this paper and are targeted for prevention by the school-based intervention programs presented in this paper. Three categories of depressive disorders and two of the many categories of anxiety disorders are included, as these are the most frequently occurring syndromes in children who suffer from internalizing pathologies.

**Depressive Disorders**

There are three main categories of depressive disorders in the DSM-IV that can be applied to children, all of which are derived from adult depressive phenomenology: (1) Major Depressive Disorder (MDD), (2) Dysthymic Disorder (DD), and (3) Bipolar Disorder.

**Major Depressive Disorder**

Criteria for MDD are dysphoric mood or anhedonia (loss of normal pleasure or interest in activities) for a period of 2 weeks, in conjunction with three or more of the following: weight loss or gain (or failure to gain appropriately for developmental age), or significant appetite changes; insomnia or hypersomnia; fatigue; psychomotor agitation or retardation; feelings of worthlessness or inappropriate guilt; diminished ability to think or concentrate; and recurrent thoughts of death, suicidal ideation, or suicidal attempt. Additionally, impairment in functioning must be present, the disorder cannot be directly
related to a general medical condition or drug use, and symptoms cannot be accounted for by bereavement. Although the core criteria remains the same for children, it should be noted that specific symptoms such as irritability, social withdrawal, and somatic complaints are more frequent in this population.

**Dysthymic Disorder**

Dysthymic Disorder in children is diagnosed if a chronically dysphoric or irritable mood has been present for a year or longer, together with at least two of the following symptoms: (1) feelings of helplessness, (2) low self-esteem, (3) sleep disturbance, (4) appetite disturbances, (5) concentration difficulties, and (6) fatigue. Again, the DSM-IV notes that “children and adolescents with Dysthymic Disorder are usually irritable and cranky as well as depressed” (p.347).

**Bipolar Disorder**

Finally, Bipolar Disorder is differentiated from Major Depressive Disorder primarily by the presence of at least one manic episode; however, in children, mania is rarely exhibited by euphoric mood. Rather, irritability is a more typical marker in younger children, and is often accompanied by prolonged, aggressive temper outbursts (Brown, 1996).

**Anxiety Disorders**

For children, only two of the many categories of anxiety covered by the DSM-IV are included here: (1) Separation Anxiety Disorder (SAD) and (2) Generalized Anxiety Disorder (GAD). These syndromes have been singled out for two reasons: first, SAD is
classified as a disorder first occurring in childhood and the diagnosis of GAD essentially replaces the DSM-III diagnosis of Overanxious Disorder, which was also classified as a childhood disorder; second, and more importantly, SAD and GAD are conceptually more similar—specifically, both appear to be marked with negative affect, both evidence a genetic contribution to their etiology, and both are found far more frequently in tandem with depressive disorders than are other anxiety disorders such as Post Traumatic Stress Disorder, Panic Disorder, and Obsessive-Compulsive Disorder (Plizka & Olivera, 1999). Also, these latter disorders may be less responsive to school-based interventions than may SAD and GAD.

Separation Anxiety Disorder

Separation Anxiety Disorder is the appropriate diagnosis if the child has suffered anxiety for a period of four weeks or more, and has at least three of the following symptoms: (1) unrealistic worry about harm befalling an attachment figure, (2) unrealistic worry about harm befalling oneself if away from the attachment figure, (4) school avoidance, (5) avoidance of being home alone, (6) avoidance of sleeping away from home, (7) recurrent nightmare involving separation themes, (8) recurrent somatic complaints in response to or anticipation of separation, and (9) recurrent distress in response to or anticipation of separation.

Generalized Anxiety Disorder

Criteria for Generalized Anxiety Disorder are excessive and persistent anxiety not focused on any specific situation or object, present for at least 6 months, and accompanied
by one of the following six symptoms: (1) fatigue, (2) restlessness, (3) sleep disturbances, (4) inability to concentrate, (5) irritability, and (6) muscle tension. These symptoms must cause a significant impairment in some area of the child’s functioning (e.g., socially, academically, etc.). The DSM-IV also notes that children with GAD “tend to worry excessively about their competence or the quality of their performance” (p. 433).

Prevalence Rates of Depression and Anxiety in the Childhood Population

Some may question the need for preventative programs directed at reducing the rates of childhood depression and anxiety, arguing that such disorders do not appear very often in this population. However, data suggest that a significant percentage of our youth suffer from these pathologies.

Estimated prevalence rates of depression amongst school-aged children offered in the literature range from rates as low as 2% to an extremely high 25% (Brown, 1996; Fassler, 1997; Lamarine, 1995). Similarly, the rates suggested for anxiety disorders among this population also vary widely, ranging from 5.78% to 23% (Silverman & Ginsburg, 1998; Waterman & Ryan, 1993).

Two studies described by Weinberg et al., (1995) found that 14% of high school students (N=3,292 urban students and N=1,298 rural students) who were administered a 56-item self-report inventory entitled the Weinberg Screening Affective Scale (WSAS) were classified as depressed based upon their scores. Conversely, Fassler (1997) reports that the National Institute of Mental Health estimates that only 1.5 million children—two
and one-half percent—suffer from significant depression, while the American Academy of Child and Adolescent Psychiatry estimates twice that many (5%). Due to the difficulties in assessing depression in children, and its frequent misdiagnosis, Dr. Fassler posits that "over one in four youngsters will experience a serious episode of depression by the time they reach their eighteenth birthday." (p. 2, italics his).

One reason that it is difficult to ascertain the exact prevalence of anxiety and depressive disorders amongst youth is due to the self-report methodology employed in most samplings. Over half of the published epidemiological studies of childhood depression reviewed by Fristad, Emery, and Beck (1997) utilized the Children's Depression Inventory (CDI); sixty-eight percent of these did not include any type of interview for diagnostic purposes. Nonetheless, nearly half of those which used the CDI alone referred to high scorers as "depressed." The authors state that similar results were obtained from an investigation of studies which used the Beck Depression Inventory. While conceding that the validity of self-report depression measures is well established, Joiner (1995) demonstrated that they are "more sensitive than thematic depression measures to faking, social desirability, defensiveness, and the like" (p. 811). Fleming and Offord (1990) lament that "shortcomings in sampling and considerable inconsistency in the measurement of depression" in fourteen epidemiological studies "made it difficult to draw firm conclusions about the prevalence...of depression in young people" (p. 571).
Symptomatology

The symptoms of depression and anxiety in the childhood population are sundry, and these can be considered either as discrete problems or in combination to form the various internalizing syndromes. Familiarity with the more common behavioral, physiological, and emotional characteristics of the disorders is helpful in the selection of preventative programs, as it facilitates the tailoring of the intervention to specific behavioral targets and facilitates evaluation of the program's success or failure.

It should also be noted that school-based interventions will typically address the symptoms of depression and anxiety, rather than target the complete disorder. Since many children experience these symptoms to such a degree as to interfere in daily social, academic, or emotional functioning, but do not necessarily meet the criteria for diagnosis with a particular disorder, these preventative programs will likely benefit larger numbers of students than would treatment programs designed specifically for psychopathological conditions. Bearing this in mind, the following overview of symptomatology associated with internalizing disorders in childhood is presented.

Until recently, major depression was not recognized by pediatric and psychological professionals as a legitimate diagnosis for children. Although criteria were proposed for depression in children as early as 1973 by Dr. Warren Weinberg, no official diagnosis for the disorder existed prior to the publication of the DSM-III in 1980 (Weinberg, Harper, Emslie, & Brumback, 1995). The multiplicity of identified depressive symptoms includes: dysphoric affect, irritability, distractibility, lethargy, hyposomnia or hypersomnia, social withdrawal, angry outbursts, reduced or increased appetite, suicidal ideation, anhedonia,
weepiness, worsened academic performance, somatic complaints such as muscle aches or headaches, psychomotor retardation or agitation, and labile mood. Additionally, cognitive characteristics such as self-deprecatory ideation, poor concentration and memory, deteriorating judgment, and attributional distortions are typically present (Lamarine, 1995; Weinberg et al., 1995). Acceptance of Bipolar disorder within the rubric of depressive disorders necessitates inclusion of an additional marker, namely mania, which can be demonstrated in children primarily through irritability and hostile anger, rather than euphoria. Mania is thus manifested by "ranting rages, driven impulsive destructiveness, or uncontrollable antisocial behavior," along with inappropriate feelings of cheerfulness, grandiose ideation, and denial of problems (Weinberg et al., 1995, p. 5).

Similarly, anxiety disorders have historically not been taken seriously in children. Anxiety typically manifests in children through psychomotor agitation, fatigue, sleep disturbances, irritability, distractibility, social and school avoidance, excessive worry, perfectionism, failure to complete school work, and physical complaints; these multiple ways in which anxiety syndromes can be presented creates difficulty in differential diagnosis of anxiety disorders in this population. In fact, the array of anxiety symptoms is so wide that Barrios and O'Dell (1998) have compiled a list of sixty-five discrete responses which they have categorized as either motoric, physiological, or subjective. These symptoms may combine to create anxiety syndromes or diagnosable disorders; any or all of these symptoms are likely to impair a student’s functioning in the classroom, and negatively influence teacher and peer interactions.
Comorbid Disorders

Depression and anxiety frequently co-occur with other psychological disorders in affected children. These concurrent disorders can complicate both treatment and prevention, as well as render differential diagnosis more difficult. (Fassler, 1997; Kovacs & Pollock, 1995; Lewinsohn, Rohde, Seeley, & Klein, 1997; Weinberg et al., 1995). Most germane to the purposes of this paper, however, is that the frequency with which other disorders occur in conjunction with internalizing pathologies further underscores the value of preventing internalizing disorders in the school-age population if possible.

Comorbid disruptive behavior disorders, anxiety disorders, eating disorders, and personality disorders are exceedingly common in depressed children. For example, in a community sample of 362 adolescents identified as having suffered at least one episode of MDD, over 20% had a comorbid anxiety disorder, and 10.8% had a comorbid disruptive behavior disorder (Lewinsohn, Clark, Seeley, & Rohde, 1994). Regarding anxiety disorders in children, it is noted that “up to one-half of all children present with more than one comorbid disorder” (Silverman & Ginsburg, 1998, p. 245). Most commonly, these additional disorders are other anxiety syndromes, e.g. overanxious disorder combined with separation anxiety. However, a sample of 310 children diagnosed with anxiety revealed that nearly one-third met criteria for an externalizing disorder as well, especially ADHD (Attention-Deficit Hyperactivity Disorder) and ODD (oppositional-defiant disorder).

In this section, the two main categories of comorbid disorders will be briefly discussed: (1) comorbid internalizing disorders and (2) comorbid externalizing disorders. Also considered are possible reasons for the existence of comorbid conditions, as well as
the exacerbating effects that these have on the child's prognosis. Knowledge of these comorbid disorders and their overlapping symptomatology can assist in the development of appropriate interventions for the prevention of internalizing disorders by illuminating other salient characteristics that must be targeted.

**Comorbid Internalizing Disorders**

Interestingly, anxiety is so frequently comorbid with depression that there is considerable debate regarding their differential status. Some experts contend that the two disorders are in fact indistinct, and are simply modifications of an overarching internalizing disorder (Finch, Lipovsky, & Casat, 1989; Patterson, Greising, Hyland, & Burger, 1997; Tannenbaum, Forehand, & McCombs-Thomas, 1992). Other researchers suggest that the comorbidity may be partly an artifact of overlapping items on the self-reports which are used to identify those who suffer from these disorders (Chorpita, Albano, & Barlow, 1998). Still others (Joiner, Catanzaro, & Laurent, 1996; Watson, Clark, Weber, Assenheimer, Strauss, & McCormick, 1995) propose a tripartite model of internalizing disorders which differentiates anxiety from depression based upon the degree of positive affect present. It has also been hypothesized that there may be a developmental pathway in the etiology of depression, which begins with anxious symptomatology in young children and evolves into full-blown depression in certain individuals (Brady & Kendall, 1992; Cole, Peeke, Martin, Truglio, & Seroczynski, 1998).

Various depressive disorders also tend to co-occur. Ferro, Carlson, Grayson, and Klein (1994) report that as many as 75% of adolescent and adult dysthymics have suffered at least one major depressive episode. Further, it is rare for a manic episode to precede
the first depressive symptoms, so bipolar disorder necessarily overlaps with dysthymia or major depressive disorder (Weinberg et al., 1995). Fortunately, much research seeking to identify unique factors in MDD, Bipolar disorder, and Dysthymia is presently being conducted, which should assist in the differential diagnosis of depressive disorders (Biederman, Mick, Faraone, 1998; Klein, Norden, Ferro, Leader, Kasch, Klein, Schwartz, & Aronson, 1998; Waintraub & Guelfi, 1998).

**Comorbid Externalizing Disorders**

Compounding the difficulties in developing school-based primary prevention programs for internalizing disorders is the co-occurrence of externalizing disorders. Kovacs and Pollack (1995) found a 69% comorbidity rate for conduct disorder (CD) in a sample of clinically referred bipolar patients. Similarly, a longitudinal study that examined the impact of comorbidity of depressive disorders and conduct disorders on social functioning discovered that over half of the children who were diagnosed with depression also had CD (Renouf, Kovacs, & Mukerji, 1997). Schmidt, Stark, Carlson, and Anthony (1998) report that ADHD and affective disorders co-occur in 20-30% in both community and clinical youth samples. Indeed, the comorbidity rate of disruptive behavior disorders with depressive disorders led a child psychiatric unit in a Boston hospital to deny a request by a researcher who was seeking to compare children with CD, ADHD, and depression because "almost every child on our unit had symptoms consistent with all three diagnoses" (Fassler, 1997, p. 63).
Possible Reasons for Comorbidity

The preponderance of comorbid diagnoses has led many researchers to question the validity of the assessment instruments, or even the constructs of each disorder. For instance, confirmatory factor analysis and a focused comparison of correlational patterns among traits yielded no support for the discriminant validity, and minor support for convergent validity, of the depression and anxiety constructs (Patterson et al., 1997). Further, an examination of three commonly used measures of childhood depression or anxiety revealed that they are "conceptually heterogeneous"; items loaded on both anxious and depressive latent factors (Chorpita et al., 1998).

Other researchers believe that the comorbidity rates may obscure a substantial incidence of misdiagnoses, caused by overlap of symptoms, which renders differential diagnosis problematic. ADHD symptomology overlaps with that of mania to such a degree that Wozniak found that 98% of a sample of manic children also met criteria for ADHD, and 20% of children diagnosed as having ADHD were also classified as manic (Brown, 1996). She points out that manic children, unlike adult bipolar patients, seldom exhibit euphoric mood, but rather demonstrate irritability, aggressive temper outbursts, and "affective storms" (p. 2). ADHD as a distinct construct has thus been challenged by Weinberg (1995) and others; Jensen, Shervette III, Xenakis, and Richters (1993) hypothesize that the disorder may simply have different subtypes and etiologies, as indicated by the higher levels of life stresses and parental symptomatology experienced by children who receive concurrent diagnoses. Some cases of conduct disorder are also believed to be misdiagnosed affective disorders. In one study it was discovered that in...
87% of comorbid cases, the depression preceded the conduct disorder; upon treatment with antidepressant medication, symptomology of both were nearly eliminated (Fassler, 1997).

**Exacerbating Effects of Comorbid Conditions**

Whatever the underlying cause of these high rates of comorbid psychopathology with internalizing disorders, it is clear from the research literature that the presence of comorbid disorders can substantially worsen the prognosis for children with depression or anxiety. This is particularly so for the comorbidity of externalizing disorders. For example, as a study of 161 children with comorbid externalizing disorders demonstrated, the presence of an additional psychiatric disorder exacerbates impairments in social functioning (Renouf et al., 1997). Kovacs and Pollock (1995) found that the youth who had comorbid conduct disorder and bipolar disorder had “notably higher rates of hospitalization and police contacts” than did those with only bipolar disorder (p. 721). Also, children diagnosed with ADHD and comorbid anxiety or depression were found to have more life stresses than those with ADHD only (Jensen et al., 1993).

Comorbid internalizing disorders can also compound the child’s problems: it has been found that academic deficits compound the social difficulties correlated with affective disorders; the "doubly incompetent group" was found to be more depressed than students with either social or academic difficulties alone (Cole, 1990, p. 427). Furthermore, comorbid anxiety and depression does not respond as well to treatment as does either disorder alone (Brent, Kolko, Birmaher, Bauger, Bridge, Roth, & Holder, 1998).
Since comorbid conditions occur in such a large percentage of youth with internalizing disorders, and these associated disorders increase the likelihood of negative outcomes in these children, it is imperative to attempt to either ameliorate the pathology or prevent the initial onset of depressive and anxiety disorders in children altogether. Such attempts at prevention will require the examination of known correlates of childhood depression and anxiety.

**Correlates of Internalizing Disorders**

Several correlates of anxiety and depressive symptomatology are well-established. Familiarity with the most salient correlates will assist in the selection of appropriate preventative programs that target such factors for change, and thus may significantly reduce the incidence of future disorders.

These correlates can be categorized into six distinct categories: (1) familial factors, (2) social functioning, (3) cognitive processes, (4) self esteem, (5) academic difficulties, and (6) neurological anomalies. It is critical to note at the outset of this discussion that none of these factors can be presumed causal; it is quite unclear whether the affective disorder leads to the correlated factor, the correlate precipitates the disorder, or that both are caused by a third common factor. Recently, researchers have urged that prospective longitudinal studies be commenced to determine “whether risks for depression actually are antecedents, rather than concomitants or consequences of the disorder” (Garber, 1996, p. 102). Until such research is conducted, the following correlates must be considered tentative risk factors for the development of depression and anxiety.
Familial Factors

Familial factors found in tandem with depressive and anxious disorders in youth are well established. These factors include maltreatment or abuse, various forms of family psychopathology, idiosyncratic patterns of interaction among family members, and the reinforcement of dysfunctional behavior by family members. A brief summary of these correlates is presented here to acquaint the reader with the scope of familial conditions associated with childhood internalizing symptomatology; however, an exhaustive review of the literature is beyond the scope of this paper.

Maltreatment and Abuse

For depression, a particularly disturbing correlate is intrafamilial maltreatment of the child. In one study, Kaufman (1991) found that in a sample of 56 abused children ages 7 through 12, fully 25% met criteria for dysthymia, and 18% were diagnosed with major depression (a majority of the children with MDD also qualified as dysthymic). Noting that over 3 million children were reported as victims of abuse in 1995, Fassler (1997) suggests that these children are at high risk of depression because of the damage done to their self-esteem and the subsequent difficulty they have in tolerating frustration.

Abuse is also associated with childhood anxiety. Sexual abuse in particular frequently engenders fear, sadness, and anxiety in children; in one study nearly twenty-five percent of sexual abuse victims suffered from physiological anxiety (Berliner, 1996). Therefore, therapy for children who have been sexually abused often includes procedures to ameliorate anxiety symptoms.
Familial Psychopathology

Maternal depression is another problem frequently seen in families of depressed youth. Kovacs (1996) notes that 20% of children whose mothers have suffered from depression will manifest a depressive episode prior to age 18. Consistent with this figure is the estimated doubling of incidence of affective illness among children who have one depressed parent; the rates quadruple among children with two depressed parents (Fassler, 1997). It is therefore not surprising that concurrent parental affective illness is found in 30 to 40% of families at the time of the child's initial presentation for depression (Weinberg et al., 1995).

Anxiety disorders also seem to be a family affair: children whose parents are anxious are seven times as likely to meet criteria for an anxiety disorder as are children of parents without the disorder (Silverman & Ginsburg, 1998).

Familial Patterns of Interaction

Depression and other psychopathology in the child's immediate family may mediate depressive and anxious symptomatology in the offspring through various characteristic familial patterns of interaction. For example, excessively high rates of critical "expressed emotion" were discovered to be characteristic of the parents of depressed children (Asarnow, Tompson, Hamilton, Goldstein, & Guthrie, 1994). Furthermore, depressed children who had been hospitalized for their disorder and subsequently returned to homes where such high levels of parental criticism were expressed had a much greater likelihood of continuing to exhibit symptoms of depression one year after discharge. In another study, open conflict was shown to be more frequent in families with depressed
adolescents, as were parental overprotection and verbal control (Nilzon & Palmerus, 1997). Interestingly, Silverman and Ginsburg (1998) found these same parental behaviors to be common among the families of anxious children.

Familial Reinforcement of Maladaptive Behavior

Investigation of a different type of familial interaction, inadvertent reinforcement of the child's depressive behavior by the parents, has yielded interesting data. Interactions observed in the families of depressed adolescents revealed that fathers often reduced their aggressive behavior in response to depressive symptomatology displayed by the child, while mothers became more facilitative (Sheeber, Hops, Andrews, Alpert, & Davis, 1998). This appears to be a unidirectional phenomenon, however, as it was noted that these parental patterns did not change in conjunction with a decrease in the adolescents' affective symptoms. However, such secondary gains as parental attention or escape from family responsibilities are common responses to the child's depressive or anxious behaviors, and these may serve to reinforce such symptoms.

While the list of familial correlates to internalizing disorders in children is quite long, Stark (1990) warns that "it should not be automatically assumed that the depressed child comes from a disturbed family," and notes that many children he has treated have come from healthy families (p. 74).

Social Functioning

Social competence is frequently studied in populations of anxious and depressed youth, and several robust correlations have been found. There is evidence that children
who are neglected, submissive-rejected, and aggressive-rejected by their peers are more likely to exhibit depressive symptoms—specifically anhedonia—than are popular children (Hecht, Inderbitzen, & Bukowski, 1998). Children who have anxiety disorders also tend to have difficulty with social relations: they are rated by parents and teachers as more withdrawn, socially inept, and shy than are children without the disorders. Sadly, anxious children are also less likely to receive peer nominations for popularity than are other children (Silverman & Ginsburg, 1998).

In the area of peer relations, it is quite problematic to discern which is the causal direction: depressive or anxious behavior leading to social rejection, or peer rejection leading to depression and anxiety. Most likely, a bidirectional pattern exists. Interestingly, researchers have observed that the dyadic interactions of depressed children are "marked by increased conflict and friction, and decreased collaboration, joint problem-solving, and mutuality" (Rudolph, Hammen, & Burge, 1994, p.367). Further, depressed children were shown to have greater difficulty controlling their anger than were psychiatric controls (Kashani, Dahlmeier, Borduin, Soltys, & Reid, 1995).

Rudolph et al. (1994) also found that depressive behaviors elicited peer rejection and negative affect in others, probably due to the tendency of the depressed children to harbor hostile problem-solving strategies (assessed through the use of the Interpersonal Problem-Solving Questionnaire, which provides 10 vignettes depicting various difficult social interactions, along with several solutions from which the child chooses one). Finally, it has been suggested that adolescents with affective disorders possess an interpersonal schemata which results in their "heightened anticipation, selective focus, and rapid
information processing" of negative social information (Shirk, Boergers, Eason, & Van Horn, 1998, p. 54). It may thus be that the negative self-assessments which these children typically possess are accurate appraisals of their interpersonal conflicts, rather than cognitive distortions.

**Cognitive Processes**

Nonetheless, cognitive distortions are another frequent feature of both affective and anxiety disorders. For example, Silverman and Ginsburg (1998) report that for anxious children “there is consensus that these children display distorted and maladaptive thoughts” (p. 249). A list of cognitive distortions common in anxiety disorders was provided by Ingram and Malcarne (1995). These include: negative attributional patterns, information processing, and self-statements; irrational beliefs; dysfunctional interpretations of ambiguous information; hypervigilance; and overestimates of risk judgments (p. 39).

It has long been hypothesized that depressed individuals more commonly attribute positive events to external, specific, and unstable causes, but believe that negative events are attributable to internal, stable, and global factors. In fact, a meta-analytic review of 28 studies involving 7500 youth supported this modified model of learned helplessness (Gladstone & Kaslow, 1995). The authors also noted that higher levels of depression were found to correlate with greater degrees of attributional distortions. Indeed, Nolen-Hoeksama, Seligman, and Girgus (1992) found that negative life events were more likely to predict depression in early childhood than cognitive style; in later childhood, however, pessimistic explanatory styles were more predictive than negative events. Interestingly, this pattern of information processing changed upon recovery from a
depressive episode: both recovered and control groups believed that negative events were much more likely to occur to others than to themselves, whereas currently depressed children estimated that these events were equally likely to occur to them as to others (Dalgleish, Neshat-Doost, Taghavi, Moradi, Yule, Canterbury, & Vostanis, 1998).

Finally, Hammond and Romney (1995) discovered that clinically depressed adolescents exhibited a more external locus of control, increased pessimism regarding their future, and polarized construing (dichotomous thinking) than did the controls.

**Low self-esteem**

It is hypothesized that the depressive effect which the aforementioned cognitive distortions have is mediated through the precipitation of a common third factor, namely, low self-esteem. Support for this model is provided in a path analysis conducted by Brage and Meredith (1993), wherein a statistically significant direct effect between self-esteem and depression was identified. Low self-esteem was also linked to loneliness, which in turn had a direct effect on depression. Hammond and Romney (1995) confirmed a "direct relationship between negative self-construing and degree of adolescent depression," but suggested that the affective disorder gradually erodes the positive content of a person's self-schema, which eventually becomes "stable and constantly negative" (p. 676). This self-assessment then leads to the perception that they are "unique in their inadequacy," and engenders feelings of social isolation.

Negative self-schemas, particularly in relationship to interpersonal functioning, were in fact found to be a direct path to depressive symptoms in a structural equation analysis (Rudolph, Hammen, & Burge, 1997). The mediating effect of negative
self-schemas has been confirmed for anxiety disorders as well: both depressed and anxious students "have a negative sense of social self-efficacy...both groups are also characterized by self-critical cognitions" regarding their social interactions (Alden, Bieling, & Meleshko, 1995, p. 57).

**Academic Difficulties**

Children who suffer from internalizing disorders typically exhibit a variety of academic difficulties (Kovacs and Goldston, 1991). A sample of 5682 elementary school children who were assessed with the Children's Depression Inventory revealed that teachers reported such behaviors as school absenteeism and poor academic performance more frequently for those students with elevated CDI scores (Puura et al., 1998). Weinberg et al. (1995) note that teachers frequently complain that their depressed students daydream, are inattentive, have poor concentration and memory, put forth less effort in school subjects, have lower grades, and fail to complete classroom and homework assignments. These characteristic problems are so common that Weinberg et al., (1995) assert that the majority of depressed children will be failing in school. Unfortunately, the failing child's teacher or parent will probably think that the child is simply unmotivated or lazy, and the depression will be overlooked (Lamarine, 1995; Morris, 1980). Cole (1990) summarizes the findings and reports that "clearly, a reliable, negative relation exists between academic competence and depression" (p. 422).

Childhood anxiety is also associated with poor academic performance (Kendall, 1994). Indeed, one of the DSM-IV (1994) criteria for diagnosis of Separation Anxiety Disorder is that the child's anxiety causes "clinically significant distress or impairment in
social, academic (occupational), or other important areas of functioning” (p. 110).

Frequently, the child’s anxiety leads to school refusal, and subsequent academic failure. Also, since “difficulty concentrating or mind going blank” is a feature of Generalized Anxiety Disorder, it is easy to see why anxious children may not do well in school (DSM-IV, 1994, p. 436).

Weinberg et al., (1995) claim that a considerable number of depressed children exhibit specific learning disabilities, and supports this claim with an interesting hypothesis: that learning disabilities may in fact mediate internalizing disorders in children due to the demoralization caused by their failure in the classroom. Children with learning disabilities are likely to become increasingly anxious and depressed as academic demands tax their capacities, leading to the development of some form of affective disorder in nearly 60% of learning disabled children.

Childhood internalizing disorders are problematic for school systems, as children with severe enough symptoms may not only fail academically but ultimately drop out of school altogether. Many could qualify for special education services under the severely emotionally disturbed category; however, these students are much less likely to be referred than are students with externalizing disorders, thereby reducing the likelihood that they will receive services.

**Neurological Anomalies**

Finally, many neurological anomalies have been discovered among depressed adults; unfortunately, little information about neurological correlates exists for children with internalizing disorders. In PET scans, the prefrontal cortex, particularly the left side,
has been shown to be underactive in clinically depressed adults (Marquis, 1996). One of the researchers in this area posits that "prolonged sadness...may cause the brain to overuse the circuits of sadness, effectively burning them out" (p. 6). However, another investigator interviewed by Marquis (1996), neuroscientist Richard Davidson, offers a different rationale: there are inborn differences in activity in the right and left prefrontal lobes. His research team found such differences among infants, and noted that those with greater right-sided activity "cried hysterically in the first minute after separation with their mothers," while those babies with greater left-sided activity were less distressed and more inclined to explore the room (p. 5).

Other fascinating evidence of neurophysiological changes comes from postmortem analysis of the anterior cingulate, an area of the brain that is associated with emotional processing. It had been previously established that blood flow in this region is decreased in living unipolar and bipolar patients, and that loss of brain volume accompanied this anomaly, but the cause of these alterations was not known (Talan, 1997). Drevets (as quoted in Talan, 1997) of the University of Pittsburgh says that he was "stunned" when his research team learned of the reason for this loss: when slivers of prefrontal cortex tissue taken from the brains of people who had died with a depressive illness were examined through a microscope, 40-90% of the glial cells in this region were gone--a discovery that Drevets considers "the single most important finding" of his study (p. A8).

Weinberg et al., (1995) discusses many other neurological abnormalities among those with affective disorders including: dysfunction of the left cerebral hemisphere; disturbances in the right parietal lobe, as demonstrated by dyspraxias, dysgraphia, and
impaired humor; and right posterior parietotemporal cortex difficulties. Also noted is the
more familiar relative deficiency of neurotransmitters such as serotonin and
norepinephrine. He hypothesizes that this depletion may occur because a "dysfunction of
modulating control from the right posterior emporoparietal cortex initiates a cascade of
events causing altered activity of the key brain stem neurons and consequent deficiency of
norepinephrine and serotonin release by their axons in the cerebral cortex." (p. 7).
Whatever the actual mechanism involved may be, researchers have measured low levels of
serotonin (5-HT) and 5-hydroxyindoleacetic acid (5-HIAA), a major metabolite of
serotonin in the brain stem of suicide victims (presumably depressed), and also an increase
in postsynaptic 5-hydroxytryptamine type 2 (5-HT2) receptors in the prefrontal cortex.
While this suggests "that a compensatory increase in receptor density occurred in response
to decreased serotonin release," it is uncertain that this is the case (Brown, 1996, p. 1).

As is the case with all such correlations, the direction of causality cannot be
unequivocally determined; rather, these neurological anomalies may be caused by the
depression, may cause the depression, or may be attributable to another factor altogether
and therefore indirectly related to the disorder. Nevertheless, the identification of such
correlates are both intriguing and practical, as it provides direction to researchers seeking
to develop new treatments for those affected by these mood disorders. Further, the
possibility that such detrimental neurological dysfunction might be directly caused by the
depression itself gives additional impetus to seek effective preventative interventions to
implement with children who exhibit signs of depression.
Etiology of Depression and Anxiety

The etiology of childhood depression is presently unclear. Although far from definitive, the hypothesis best supported by the available research is that the most proximate cause of depression is a neurochemical imbalance (Fassler, 1997; Kovacs & Devlin, 1998; Weinberg et al., 1995). The developmental pathway to the imbalance itself is unclear, however. Most models of depression posit an underlying genetic predisposition to affective disorders, which are then mediated by any number of identified risk factors, including: emotional, physical and sexual abuse; neglect; other negative life events; social skills deficits; parental substance abuse; parental affective disorder; pessimistic explanatory style; hormonal influences; drug use (including tranquilizers and stimulant medications), learning disabilities; traumatic brain injury and other medical illness; and even not having been breast fed as an infant (Allen, Lewinsohn, & Seeley, 1998; Azar, 1995; Fassler, 1997; Kaufman, 1991; Lamarine, 1995; Nolen-Hoeksema et al., 1992; Weinberg et al., 1995).

Similarly, the etiology of anxiety is unclear; although it also appears to have a neurological basis which interacts with various psychosocial stressors in its developmental pathway. For example, it has been demonstrated that a certain percentage (10-15%) of infants are born with a temperament referred to as behavioral inhibition. These babies avoid and withdraw from any novel situations, cling to their parents, and exhibit fearfulness and physiological arousal when exposed to new situations. These reactions often persist as the children grow, and they become shy, irritable, and cautious. Supporting the genetic nature of this disorder is the fact that children of anxious parents
are much more likely to have behavioral inhibition characteristics than offspring of parents with other psychiatric conditions (Silverman & Ginsburg, 1998).

The genetic predisposition theory is equivocally supported, though, with challenges from recent twin and adoption studies that yielded conflicting results. An adoption study conducted by Eley, Deater-Deckard, Fombonne, Fulker, and Plomin (1998) compared 180 adopted children and 227 nonadopted children with their biological and adoptive mothers and siblings, and revealed that "heritability was negligible" for depressive disorders (p. 337). However, twin studies have confirmed a genetic basis for "pure anxiety," i.e., anxiety without concurrent depression (Silverman & Ginsburg, 1998).

**Developmental Course of Internalizing Disorders**

Depression and anxiety in children tend to follow a developmental progression toward increasingly severe manifestations of the disorders. Information regarding presumed developmental pathways is provided here for two reasons: (1) to further emphasize the need for school-based programs that seek to prevent internalizing disorders in children, and (2) to suggest possible points at which to intervene at the early treatment level, in order to lessen the negative impact that the syndrome will have on the sufferer.

The developmental progression of depression and anxiety into Depressive disorders have a pernicious course: episodes tend to recur with great frequency, to become progressively more severe, and to evolve from unipolar to bipolar manifestation. Prognosis is thus rather poor: 70% of referred children and adolescents with a major depressive episode will have another one within 5 years. Longer follow up (18 years)
indicates that fully 95% of clinically depressed individuals have a recurrent MDD (Kovacs, 1996). The findings are especially problematic, since the probability of conversion to bipolar disorder increases with each episode. Longitudinal studies estimate that between 12% and 50% of children with initial unipolar disorder will convert to bipolar, with the larger figure derived from the longest follow-up period--8 years. Research has also found that "very early onset depression portends a high propensity for early bipolar switch" (Kovacs, 1996, p. 714).

While time to recovery from any discrete episode is shorter in children than in adults (on average 9 months), this varies widely. Those children with early-onset MDD (defined as prior to 15 1/2 years of age) had a mean episode length of 34.7 weeks, whereas the mean for those with later onset was only 12.9 weeks; the overall mean in this sample of 362 children was 26.4 weeks, but this was highly skewed: the median episodic duration was only 8 weeks. More informative is the fact that 75% had recovered within 24 weeks (Lewinson et al., 1994). The authors hypothesize that later-onset depression may be a different subtype than earlier-onset, as children with the latter type tend to have shorter interepisodic periods and relapse earlier.

Dysthymia follows a somewhat different course. In a study of 112 clinically referred 8- to 12-year-olds, the median duration of dysthymic disorder was 3.9 years (Kovacs, Obrosky, Gatsonis, & Richards, 1997). Eighty-nine percent could be expected to recover within 8 years. For those children with comorbid externalizing disorders, however, the median duration of DD was 6 years. It is thought that perhaps "chronic
depression may be exacerbated by and/or represent a way of coping with the negative social reactions that conduct disturbances elicit" (p. 783).

Undoubtedly, the worst prognosis possible is that the depressed child or adolescent will commit suicide. Suicidal ideation occurs in 25 to 89% of depressed children (Stark, 1990), and at least 9% of all teen-agers attempt suicide at least once (Fassler, 1997). An estimated 2,000 adolescents successfully complete suicide each year in the United states, with 90% of them having a psychiatric diagnosis, generally affective disorder (Brown, 1996). Most alarming is the Surgeon General’s assertion in Call to Action to Prevent Suicide 1999 that the suicide rate of children aged 10-14 increased by 100% between 1980 and 1996.

Although not nearly so somber as the prognosis for depression, the data regarding outcomes of childhood anxiety also indicate that anxiety tends to be a lifelong disorder. Contrary to earlier research, recent studies have found that childhood anxiety “tends to be far more enduring” than previously thought: a two-year study of children aged 7 to 10 found that their anxiety scores were fairly stable during that period, and the number of symptoms were also “strikingly similar” (Barrios & O’Dell, 1998, p. 258). Other prospective studies reveal that between 20 and 30 percent of childhood anxiety disorders are stable for periods of up to five years. Likewise, retrospective studies have also indicated that a large percentage of anxious adults report that their anxiety symptoms initiated in childhood (Silverman & Ginsburg, 1998). Furthermore, it appears that anxiety worsens over time, as “older children with anxiety disorders report significantly higher
levels of anxiety (and depression) than do younger children with the same diagnoses” (Kendall, 1994, p. 100).

A more disburbing prognosis was found in a longitudinal study of 57 individuals who were tracked for twenty years beginning in childhood; 14 percent of the children with anxiety disorders were later hospitalized as adults in psychiatric hospitals, as compared with only two percent of the control group (DeAngelis, 1995).

Overall, the prognosis for childhood depressive and anxiety disorders is rather bleak, and tends to worsen over time. When left untreated, internalizing disorders follow a pernicious course of cyclical recurrence, with each manifestation becoming increasingly severe and refractory to treatment. Therefore, preventative interventions for these disorders are sorely needed.

Established Treatments

The debilitating progression of depression and anxiety underscores the importance of treating internalizing disorders and symptoms in children at the earliest opportunity, preferably before the child has developed a diagnosable disorder. Fortunately, there is a substantial body of literature which indicates that children with depressive and/or anxious symptomatology can be effectively treated with a variety of modalities. A complete review of this literature is beyond the scope of this paper; therefore, a brief summary of the major methods of treatment will be presented to illustrate the general efficacy of such interventions in alleviating depressive and/or anxiety symptoms in children.
A few of the treatments that have been developed for children with internalizing disorders or symptomatology include: cognitive-behavioral treatment, relaxation training, interpersonal psychotherapy, systemic-behavioral family therapy, social skills training, and psychopharmacology (Goodman, Kravitt, & Kaslow, 1995; Miller & Cole, 1998). Meta-analysis of outcome research reveals that any treatment is superior to none, but that cognitive-behavioral interventions were somewhat more effective than psychodynamic therapies (DeAngelis, 1995). Treatment of depression and anxiety in children, as well as adults, thus tends to incorporate a combination of interventions (Brown, 1996; Weinberg, 1995).

**Cognitive-Behavioral Treatments**

Outcome studies for cognitive-behavioral treatments, which are “based on the assumption that maladaptive behaviors result from distorted cognitive structures,” have accumulated the most data (Pliszka & Olvera, 1999, p. 235). In a comparison of treatment outcomes for three different psychosocial therapies, cognitive-behavioral was identified as the most efficacious. One hundred and seven adolescents diagnosed with major depression participated in this study, which randomly assigned each to one of the following treatments: cognitive-behavioral therapy (CBT), systemic-behavioral family therapy SBFT, or nondirective supportive therapy (NST). Treatment consisted of 12 to 16 sessions in each condition. Recovery from depressive symptoms was found to be more rapid and thorough in CBT than achieved through either SBFT or NST; patients in the NST condition were 5.8 times more likely to still be depressed at the end of the treatment period than were those in the CBT condition. Unfortunately, the authors also note that
90% of the clinic-referred sample, and 56.5% of the volunteer sample (culled from advertisements) still suffer depression after completing the treatment (Brent, et al., 1998).

A review of available research revealed that individual CBT appears to be more effective than family therapies (Harrington, Whittaker, & Shoebridge, 1998); Lamarine (1995) notes that a cognitive-behavioral school-based treatment program for teenagers was proven effective, and that the treatment effects persisted and increased over the two-year follow-up period. Since one of the key goals in outcome research is to predict which patients are better candidates for which treatments, an interesting discovery is that younger children (ages 10 and up) responded more favorably to an 8-week trial of CBT than did most adolescents, as did those children and teenagers with less severe depressive syndromes (Jayson, Wood, Kroll, Fraser, & Harrington, 1998).

Although conducted in a clinical setting, Kendall's effective cognitive-behavioral protocol for anxious children could easily be adapted to a school setting (Kendall, 1994). In this study, students aged 9 to 13 participated in weekly fifty minute sessions for an average of 17 weeks. The individual sessions used behavioral methods such as in vivo exposure, relaxation training, and contingent reinforcement, together with cognitive techniques such as self-talk, development of coping strategies, and self-evaluation. Compared with a control group assigned to a wait-list, "64% of those treated no longer met diagnostic criteria," whereas only one student in the control group (5%) no longer qualified as anxious (p. 106).
Social Skills Training

Another school-based treatment with established benefit is social skills training. It has been noted that “depressed children typically display serious deficits in social skills,” children with anxiety symptomatology also frequently lack these important skills (Lamarine, 1995, p. 392; Silverman & Ginsburg, 1998). Social skills training directly addresses these deficits through the direct instruction and rehearsal of specific skills.

Stark (1990) outlines one such multi-component program that incorporates social skills training in a book written especially for school psychologists entitled, Childhood Depression: School-Based Intervention. Children who have been identified as depressed attend sessions twice weekly for the first eight weeks, and once weekly thereafter, for a suggested 26-week period. During these sessions, the following skills are taught: self-reinforcement, self-monitoring, relaxation training, assertiveness training, social skills training, cognitive restructuring, problem-solving, attribution training, and self-evaluation. Role plays and stories are utilized to engage the children, and therapeutic homework is assigned. While the emphasis of the program is decidedly cognitive-behavioral, Stark emphasizes that "a solid client-therapist relationship is a prerequisite" and that this includes warmth, empathy, trust, and open communication; he notes that this relationship is substantially therapeutic "in and of itself" (Stark, 1990, pp. 100-101).

Interpersonal Psychotherapy (IPT-A)

Reasoning that depression in children is exacerbated, if not mediated, by impaired social functioning, Mufson and Fairbanks (1996) conducted a one-year naturalistic follow-up of fourteen depressed adolescents who received three months of interpersonal
psychotherapy (IPT-A). The treatment focused on the social relationships of the youth during a weekly therapy session. Unfortunately, four of the subjects (29%) did not participate in the follow-up evaluation; the findings must therefore be interpreted cautiously. When assessed at the one-year follow-up with the K-SADS-E interview nine of the ten were considered recovered; the tenth adolescent still met criteria for major depression (the authors note in their discussion that this individual had dropped out of the treatment at week four, and had received no further psychotherapy during the interim).

While statistically significant reductions in depressive symptomatology were achieved by this intervention, the 11% of the interview sample (one individual) who were still depressed at follow-up corresponds to the general rate of recurrence suggested by other researchers. However, the treatment did have a powerful effect on one known correlate to depression: social functioning. Overall social adjustment improved significantly at termination and at the one-year follow-up; whether or not these gains might assist the subjects in warding off future depressive episodes remains to be seen.

**Pharmacological Treatment**

Pharmacological treatment is also frequently utilized for childhood depression and anxiety. Despite the controversial nature of these treatments, engendered partly by the fact that such medications are not routinely tested in children, prescriptions of antidepressants for children with affective disorders are increasing dramatically. The class of antidepressants referred to as selective serotonin reuptake inhibitors (SSRIs--e.g., Prozac, Zoloft, and Paxil) was prescribed 1.3 million times annually in 1995, an increase of 80% in just two years. Children ages 3 to 9 received 59,000 prescriptions that year
(Perlman, 1996). This reliance on medications occurs despite the preponderance of data which indicates that the drugs are no more efficacious than placebo (DeAngelis, 1995; Perlman, 1996); most of these studies involved treatment with second generation antidepressants (TCAs) rather than the newer SSRIs. Furthermore, Harrington et al., (1998) note that "there have been no systematic studies comparing psychological treatments with medication" (p.291).

This caveat is no longer true, however. A recent meta-analysis (Michael & Crowley, under review) compared the mean effect sizes of psychosocial treatments for depressed children with pharmacological treatments; overall, psychological treatments were found to be more efficacious than drug treatment. The authors note, however, that most of the drug trials involved TCAs, and that SSRIs (which may be more efficacious) are becoming increasingly common. Of concern are the multiple methodological flaws discovered in the reviewed literature, and the differential benefits of treatments across gender and age. Despite these limitations, Fassler (1997) asserts that "clinicians often see clear improvement in depressed kids treated with antidepressants," and thus "most child and adolescent psychiatrists...believe in using medication with certain depressed children" (p. 141).

This attitude holds true for the treatment of childhood anxiety disorders as well. While Waterman and Ryan (1993) admit that "the proper roles for drug treatments of these illnesses are not clear" and that "few empirical data are available concerning the uses of psychotropic agents" in childhood populations, the tendency in psychiatric and pediatric practice has been to accept the data that has accumulated for adult patients as justification
for prescribing drugs to children with similar disorders (p. 239). Commonly used medications for the treatment of childhood anxiety include both anxiolytic agents, i.e., benzodiazepines (Xanax, Librium, Valium, Serax, etc.) and newer nonbenzodiazepine anxiolytics such as BuSpar and Vistaril, as well as antidepressant agents. Unfortunately, many of these drugs have adverse side effect profiles: sedation, for example, is common, as is motor incoordination. More troublesome are the potential for dependence, an issue that Waterman and Ryan (1993) assert is “clearly in need of study,” and the uncommon but possibly dangerous disinhibition of aggressive or other undesirable behaviors (p. 238). There is an obvious lack of research into the pharmacological treatment of anxiety disorders in children that begs urgent redress.
NEED FOR SCHOOL-BASED PRIMARY PREVENTION PROGRAMS

While the general efficacy of treatments for childhood depression and anxiety is heartening, few children suffering from these disorders receive any such treatment. Also, since the course of internalizing disorders involves increasing levels of pathology, with concomitant social dysfunction, it is clear that intervention needs to occur as early as possible. Thus, of even greater benefit than the successful identification and treatment of internalizing disorders in children would be the effective prevention of these syndromes altogether, or at least intervention prior to the development of a full disorder.

In this regard, recent research that examines the efficacy of secondary prevention interventions (i.e., those that focus on “at-risk” children) is encouraging. These studies support the hypothesis that such prevention-oriented programs can successfully reduce the risk of participants’ developing internalizing disorders and the accompanying negative correlates. From this preliminary research may evolve effective primary prevention programs (i.e., those that focus on all children of a particular age group, rather than only those children who have identified risk factors for development of the disorders) that could be implemented in an elementary school setting for the optimum benefit to the childhood population.

In the next section, previous reviews of primary and secondary prevention studies directed at child and adolescent internalizing symptomatology will be discussed, followed by a synopsis of a recent review of several key outcome studies undertaken by the author (Moore, 1999). Next, the general weaknesses in the existing body of literature will be discussed, along with implications for future research. Since this review is provided to
illuminate the potential utility of primary prevention programs in reducing the incidence of childhood internalizing psychopathology, it will also be noted that such prevention research is yielding positive preliminary results.
Previous reviews of the literature dealing with preventative efforts have been conducted, and these have included several depression and anxiety prevention studies. Two types of intervention are commonly reported: primary prevention, which seeks to prevent the incidence of future psychopathology by applying a treatment to all subjects within a normal population; and secondary prevention, which attempts to lower the incidence of psychopathology through early intervention in a target population composed of individuals who already exhibit subsyndromal symptomatology.

Durlak (1998) included a handful of studies that sought to decrease future internalizing symptomatology in his meta-analysis of primary prevention programs for children; a mean effect size of .40 at follow-up was found for those studies that reported measures of internalizing problems. Durlak’s meta-analysis was thorough, and built upon his earlier research in this area (Durlak, 1995; Durlak & Wells, 1997). His research provides substantial support for the efficacy of primary prevention interventions; indeed, the data from more than 220 controlled outcome studies included in his report indicates that “interventions have produced significant improvements...program impact does not dissipate over time, and some interventions have resulted in dramatic, practical benefits for program participants” (Durlak, 1998, p. 467).

However, it is clear that the results reported in Durlak’s meta-analysis were taken directly from the conclusions set forth by the studies’ authors. For example, a 57% drop in internalizing problems was reported for one study (Bronstein, Duncan, Clauson,
Abrams, Yannett, Ginsburg, & Milne, 1998), careful analysis of the data indicate that this figure is not supported by actual reductions in symptomatology. Specifically, the differences between the control and treatment groups were statistically significant at the p < .05 level after one to two months, but disappeared altogether after 12 to 15 months. Another weakness was that the author, although he included both secondary and primary prevention studies in his meta-analysis, chose not to report mean effect sizes independently for each type.

Another excellent review of prevention of depression studies was conducted by Compas, Connor, and Wadsworth in 1997. Treatments were found to be effective in reducing depressive symptoms for all studies; however, these gains did not maintain through follow-up in one of the five studies examined, and another study failed to include follow-up data. The authors note that with the exception of Kellam et. al.'s (1994) study of children with reading difficulties, all of the research subjects had been selected through assessment for elevated levels of depressive symptoms, and therefore those studies were actually evaluations of early intervention, or secondary prevention.

A recent review of psychosocial treatments for childhood depression conducted by Kaslow and Thompson (1999) breaks new ground in establishing criteria for the evaluation and comparison of treatments for depressed children. The authors examined the outcomes of two secondary prevention studies (Clark, Hawkins, Murphy, Sheeber, Lewinsohn, & Seeley, 1995; Gillham, Reivich, Jaycox, & Seligman, 1995) along with several treatment studies, and concluded that neither of them met the criteria for "probably efficacious" status (since neither compared the effects of an intervention to a placebo
control or medication). However, both studies had demonstrated statistically and clinically significant reductions in depressive symptoms in the treatment groups. Excluded from this review were several primary prevention studies, since the authors’ focus was on the efficacy of treatments for current psychopathology.

None of the reviews previously mentioned were complete and without some weaknesses; therefore, a new literature review was undertaken to ascertain the current state of knowledge regarding the both primary and secondary prevention of affective disorders in childhood and adolescence (Moore, 1999). Five studies that employed a quasi-experimental or control-group design were reviewed, of which three sought to prevent depression or depressive symptomatology (Beardslee, Wright, Salt, Drezner, Gladstone, Versage, & Rothberg, 1998; Clarke et al., 1995; Gillham et al., 1995), one was directed toward improved adjustment (Bronstein et al., 1998), and one attempted to reduce the incidence of anxiety and anxiety symptomatology (Dadds et al., 1997, 1999). Two of the studies could be classified as primary prevention studies (Beardslee et al., 1998; Bronstein et al., 1998); the remainder used subjects with preexistent symptoms of the targeted disorder. For example, fully seventy-five percent of the sample in the Dadds et al., study (1997) met criteria for an anxiety disorder at pre-intervention. Finally, it should be noted that subjects’ ages ranged from age seven to fifteen in the five studies reviewed here.

Three of the studies employed a cognitive-behavioral intervention (CBT) with the targeted children (Clarke et al., 1995; Dadds et al., 1997; Gillham et al., 1995); parent education was used as the treatment variable in the other two studies. Of particular
interest to the development of school-based preventative interventions is that all of the studies implemented the intervention in a school setting, except for the Beardslee et al. (1997) study, which utilized a clinic setting for its intervention.

The data presented in the Beardslee et al., (1997), Clarke et al., (1995), and Gillham et al., (1995) studies support their primary hypothesis, i.e., that the treatment reduced the incidence of future depressive and/or anxious symptomatology. Thus, the interventions employed in these three studies can be described as more effective in reducing the incidence of depressive symptomatology than are the control conditions (either no treatment or an alternative treatment). More importantly, clinically significant differences were also demonstrated in these studies; specifically, each showed that the intervention group enjoyed a greater than fifty percent reduction in symptomatology than the control groups experienced at follow-up. For example, Beardslee et al. (1997) found that 25% of the children in the control group met criteria for major depressive disorder during the follow-up period, compared to only 7% of the children in the treatment group.

The other two studies failed to adequately support their hypothesis with the data, although both reported that the intervention was effective. Specifically, Dadds et al., (1997) claimed significant reductions in anxiety syndromes for the treatment group based on clinicians’ diagnoses based entirely on information solicited in a telephone interview with the parents. Self-report and parent-report data do not concur with this appraisal. No statistically significant differences were found on scores of the RCMAS, and nonsignificant differences (but in the opposite direction as hypothesized) were reported for the Child Behavior Checklist (CBCL, Achenbach, 1991a) Internalizing T-scores.
Similarly, Bronstein et al., (1998), reported that its parent education program resulted in significant reductions in internalizing symptoms as indicated by parent-reported CBCL scores at post treatment; these differences disappeared at follow-up twelve to fifteen months later.

Prevention research is still in its infancy; the five studies reviewed by Moore (1999) should thus be considered pioneers in this emerging line of research, and commended for taking the first steps toward an understanding of the prevention of internalizing disorders in children. Overall, the results which have been obtained from these preventative interventions are generally encouraging, but mixed. Also unfortunate is the fact that, despite the large degree of co-occurrence between anxiety and depression, none of the studies attempted to decrease the incidence of both disorders with a single preventative intervention. Therefore, future research to determine the efficacy of a such a multipurpose intervention in the primary prevention of internalizing disorders in a student population is sorely needed.

Until such time as such research is conducted, however, vast numbers of students suffer from depressive and anxious symptomatology, together with the various accompanying difficulties, as outlined previously. To await definitive data supporting school-based preventative interventions prior to implementation of such programs seems overly cautious in light of the aforementioned preliminary support for the prevention of internalizing disorders in children.
As has been elaborated, there are a substantial number of children who suffer from internalizing disorders, of whom it is estimated that fewer than 20% receive treatment, despite the demonstrated efficacy of early treatment (Weissberg, Caplan, & Harwood, 1991). A fundamental reason that depressed and anxious children are not treated for their disorders is the fact that “there is an enormous discrepancy between the number of available service providers and children who require help” (Weissberg et al., 1991, p. 831). Untreated, internalizing disorders continue to impair a person’s functioning well into adulthood. As Lamarine (1995) warns:

“If appropriate action is not taken early, the child’s inability to socialize normally may lead to a relentless state of diminishing psychological well-being continually reinforced by negative feedback from peers, family, and significant others” (p. 391).

It is therefore not surprising that interest in the development and implementation of school-based primary prevention programs that have far-reaching potential to improve the well-being of both the student population and society at large is gaining considerable momentum.

Given the similarity of the treatment protocols which have been employed in prevention studies aimed at the different populations, i.e., anxious and depressed, together with the concomitant correlates for both and their hypothesized conjoint etiology, it is reasonable to consider that one such multi-modal intervention might prevent the development of both disorders. It may thus be possible to maximize the benefits of a
single program by applying it to the entire elementary school-aged population as a primary prevention effort. The remainder of this paper shall be directed toward a review of programs that might achieve this goal.

Methods

It should be noted that preventative interventions are still primarily in the demonstration project phase; however, researchers such as Weissberg et al., (1991) and Durlak (1998, 1999) are beginning to distill the essential components of effective programs and thus begin to establish criteria for future efforts. From these analyses, some general principles have begun to emerge to assist in the selection of preventative programs. The following principles shall thus be considered in the review of school-based prevention programs to follow.

First, Durlak (1999) notes that “most successful programs are based on specific theories that have previously received empirical support” (p. 4). Therefore, preventative interventions should have a solid theoretical basis. Second, it has become clear that a multiyear, multicomponent comprehensive prevention program that seeks to enhance social competency is needed if lasting behavioral change is to be achieved. Although short-term programs have shown success, these gains tend to dissipate over time; research now indicates that multiple years of skills training produce significant gains (Weissberg et al., 1991). Third, the focus of change should be on behaviors, rather than thoughts or attitudes. As Durlak (1999) succinctly asserts, “if prevention were simply a matter of telling young people what they should do...prevention would have been universally
accepted and established in all settings a long time ago” (p. 4). Thus, direct or indirect skill training should predominate. Fourth, because of the systemic nature of psychopathology, an ecological perspective should be adopted: not only the student, but also the teacher, parent, peers, class, school, and broader community should ideally be targeted for change (Weissberg et al., 1991).

There exist many prepared curriculums and specialized programs which can be utilized within a school setting that seek to provide children with healthier ways to think, feel, and behave, and thus foster resiliency to internalizing disorders (Vernon, 1998). An initial search of the literature pertaining to social-emotional development in elementary schools yielded an unwieldy assortment of hundreds, perhaps thousands, of programs. Currently, comprehensive reviews of school-base preventative programs that target risk factors for negative outcomes such as youth violence, drug usage, and school dropout are underway (e.g., Collaborative for the Advancement of Social and Emotional Learning--CASEL, established by the Yale Child Study Center in 1994, and the Promoting Social Competence Effectiveness Survey, based at the Centre for Paired Learning in the Department of Psychology at the University of Dundee); it is not the intent of this paper to duplicate such efforts and provide an exhaustive review. Rather, programs that are representative of the currently available interventions were selected for review.

The following inclusion criteria were used in the selection of prevention programs reviewed herein: (1) the program must enjoy empirical support as demonstrated by outcome data, or it must target identified correlates of internalizing disorders as described above, specifically: familial, cognitive, social, academic, and self-esteem factors; (2) the
program is suited primarily for elementary school (grades one through five); (3) the program can be implemented on a school-wide basis; and (4) the program utilizes available school personnel (e.g., school counselors, psychologist, teachers, administrators, and parents).

Specifically excluded are numerous interventions that, although they have potential efficacy to ameliorate internalizing symptomatology, were designed with the primary goal of reducing externalizing behavior problems such as aggression or drug use (e.g., Second Step, developed by the Committee for Children in Seattle, Washington). These are frequently referred to as “character education” or “conflict resolution” programs, and their development and implementation has increased in recent years in response to concerns about school violence. The conceptual focus of such programs is somewhat different from that of interventions designed to foster resiliency and mental health. Also, the severity of behaviors such as aggression creates pressure for researchers to examine only violence-related outcome data, resulting in little evaluation of internalizing symptomatology. For these reasons, it was believed that inclusion of such narrowly-focused programs was contraindicated for this review.

The programs can be categorized as either curricular or comprehensive in format. Curricular programs are typically classroom-based, implemented by the regular education teacher, and have a strong didactic component. Comprehensive programs take many forms: teacher-parent partnerships, consultative relationships, in-school mental health programs, etc. Since these multifaceted programs differ from each other in fundamental ways, as well as frequently overlap components, it is quite difficult to directly compare
their efficacy with curricular-based projects. Although it is likely that curricular programs lack the broad scope that Durlak (1999) and Weissberg et al., (1991) posit are necessary for maximum benefits, both types of programs will be reviewed in this paper. The reason for their inclusion is that curricular programs are currently far more popular and hence proliferate among school districts due to their comparative simplicity and the didactic nature of the material, which seems particularly well-suited to the school setting.

It should be noted at the outset of this discussion that the following programs are presented in descriptive format, with strengths and weaknesses generally discussed. Formal evaluation of these programs was not undertaken, since little outcome data exists, and that which does is generally sparse and conflicting. Also, project evaluations that have been conducted vary widely in quality and span the course of several decades in some cases. Therefore, there is little basis on which to directly compare the potential efficacy of these programs in preventing internalizing symptomatology. The approach that shall be taken in this paper is to examine the degree to which selected programs adhere to the criteria established by Durlak (1999) and Weissberg et al., (1991), specifically: the theoretical basis on which the program rests and any empirical support which is available. Also, the correlated factors which the programs seek to redress shall be identified. Finally, implementation issues will be discussed when sufficient information (e.g., costs, personnel requirements, etc.) are available or easily surmised. The information provided for each program was gleaned from published journal articles, symposia papers, evaluation studies, and descriptive materials. In many cases, this information will reflect the opinions of the
program developers and their colleagues; in other cases, however, the program’s critics will provide alternative viewpoints.

Results

Curricular Programs

As discussed previously, Weissberg et al., (1991) suggests that the best curricular programs are designed to be multiyear, beginning in kindergarten or first grade, and continuing throughout the school years. Durlak (1999) also asserts that these should be theoretically grounded and empirically supported, as well as focus on behavioral changes. As noted above, no curricular program meets the expectation for a multifaceted, comprehensive program; thus this criteria was not applied in this category.

Four programs were selected for inclusion based on meeting the above criteria, as well as their representativeness of the category: (1) Improving Social Awareness-Social Problem Solving Project (ISA-SPS), (2) Interpersonal Cognitive Problem Solving (ICPS), (3) Promoting Alternative Thinking Strategies (PATHS), and (4) Rational-emotive Education (REE). Descriptions of each follow.

Improving Social Awareness-Social Problem Solving Project (ISA-SPS)

Multiyear program. The Improving Social Awareness-Social Problem Solving Project (ISA-SPS) is a project that was initially designed for smoothing the transition to middle school, and has subsequently proven useful for broader application as a universal preventative treatment; it earned the Lela Rowland Prevention Award in 1988. This curricular program teaches children an eight-step social decision making strategy and
self-control skills to apply to real life and academic problem areas through a series of didactic and experiential lessons. ISA-SPS was designed as a two-year, sequentially taught curriculum, to be presented to students in the 4th and 5th grades.

**Theoretical grounding.** The ISA-SPS program is rooted in Piagetian theory, and draws as well upon Dewey’s (1933, cited in Elias et al., 1991) learning theories and the social learning theory espoused by Rotter (1954, cited in Elias et al., 1991). Elias and colleagues attempted to synthesize these diverse theories into a unified approach to social skills instruction (Elias & Clabby, 1992).

**Behavior skill-building approach.** There are three phases in ISA-SPS: (1) the readiness phase, in which self-control skills and group participation are taught, (2) the instructional phase, in which teachers use scripted lessons to cumulatively teach the social decision-making and problem solving steps, and (3) the application phase, in which the teacher integrates problem-solving and social-awareness activities into the regular classroom routine through the use of dialoguing methods and reinforces students’ performance of the learned skills. Each new skill in the instructional phase is taught in a specific format, beginning with group sharing of feelings, problems, and successes. This is followed by an overview of the skill, a written or video presentation of situations in which the skill is needed, discussion of the situations and the use of the skill, and role plays practicing the skill in various situations. Finally, the teacher summarizes and reviews the lesson. Weissberg and Greenberg (1997) note that “this format emphasizes a number of features to foster the maintenance, generalization and transfer of learning” (p. 914).
**Targeted correlates.** The program’s utility in the potential prevention of internalizing disorders lies in its focus on the development of social competence and social cognition abilities.

**Empirical support.** A longitudinal study involving four different elementary schools in central New Jersey analyzed outcomes for three cohorts--two of whom had participated in the two-year intensive program during their 4th and 5th grade years, and one of whom served as a control group (Elias et al., 1991). Follow-up took place six years later, in grades 9-11, at which time academic, behavioral, and psychopathological data were collected and analyzed.

Beneficial effects were found for the intervention on all measures, with differential results obtained for the male and female students. In the academic arena, male participants scored significantly higher on the Comprehensive Test of Basic Skills, an academic achievement measure (p< .05), while female participants had significantly fewer school absences (p<.05). Behavioral indices such as vandalism, tobacco use, assaults, and purchase of alcohol all differentiated the treatment groups from the control group, in the expected directions.

Most germane to the focus of this paper, however, was the finding that boys who had been exposed to ISA-SPS reported significantly fewer depressive symptoms on the CBCL-YSR (Achenbach, 1987) than did the boys in the control group [F(4,178) = 2.75, p<.03, R = .24]; unfortunately, the three cohorts of girls could not be differentiated on this measure. However, the girls in the treatment group did have significantly higher levels of self-efficacy and social competence [F(6,168) = 4.63, p<.01, R = .37].
The authors note that the transition to high school presents certain developmental challenges to students, and posit that “ultimate benefits probably depend on the extent of continuity and reinforcement of skills in students’ salient social environments” (Elias, Gara, Schuyler, Branden-Muller, & Sayette, 1991, p. 416).

Implementation issues. The Improving Social Awareness-Social Problem Solving Project (ISA-SPS) curriculum is currently available in a text entitled Promoting Social and Emotional Learning: Guidelines for Educators (Elias et al., 1997).

Strengths and weaknesses. The ISA-SPS program has many strengths. First, the solid theoretical foundation on which it rests provides the rationale needed for the program’s components. Second, the program utilizes available personnel, and seeks to integrate the social skills and problem solving curriculum into the regular educational routine. Third, evaluation research conducted on the ISA-SPS program has provided preliminary support in its efficacy in regards to the reduction of internalizing pathology and the development of social and academic competencies.

The ISA-SPS program also has its share of weaknesses. A basic shortcoming that it shares with all of its curricular cousins is the lack of additional components that target the ecological (i.e., environmental) factors affecting the child. Another disadvantage shared in common with other curricular programs is the instructional time demands it makes on the regular education teachers. A weakness that is specific to the ISA-SPS project is the absence of a commercialized program that provides full support to educational institutions in terms of materials, inservice, consultation, etc.
Interpersonal Cognitive Problem Solving (ICPS)

**Multiyear program.** Another primary prevention curriculum is a series of lessons that have been compiled into a set of three manuals entitled *ICPS—I Can Problem Solve* (Shure, 1992). These lessons are designed to be presented by the classroom teacher to children from preschool through the intermediate elementary grades.

**Theoretical grounding.** Shure’s curriculum is based upon the theory that “the quality of social relationships and capacity to cope with interpersonal problems” are key in the development of psychopathology (Shure, 1997, p.168). To this end, the program seeks to instruct children in “how to think, not what to think” (Shure & Ditlow, 1994). Specifically, students are taught problem solving skills—consequential thinking, how to understand and interpret others’ motives, empathy, etc.

**Behavior skill-building approach.** The ICPS curriculum has two main components: (1) pre-problem solving skills, and (2) problem solving skills. Pre-problem solving skills instruction includes such important basics as the identification of feelings, a problem-solving vocabulary, and perspective taking. For example, word pairs such as *is/is not, same/different, and why/because* and phrases such as *if—then* are used in games to “set the stage for later problem solving” (Shure, 1997, p.171). After laying this foundation, problem-solving skills are introduced. These include how to generating solutions, consequences, and how to choose between solutions based upon possible outcomes. The lessons are taught using games, puppets, stories, and role-plays.

**Empirical support.** ICPS has been extensively researched for nearly three decades. Field studies of ICPS training have been conducted in Philadelphia, Memphis, Dade
County, and Chicago Public Schools, and the several thousand participants in these studies have included children of various ethnic and SES groups (Shure, Aberson, & Fifer, 1994).

One such early study demonstrated that 69 children in nursery school or kindergarten who received one year of ICPS training exhibited decreased social inhibition (i.e., shy behaviors) as well as impulsivity, and increased empathy, cooperation, and positive peer relations (according to teacher ratings using the Hahnemann Preschool Behavior Rating Scale [Spivack and Shure], 1974). These gains were maintained at two-year follow-up: 77% of trained students were rated as adjusted at the end of the kindergarten year, whereas only 41% of the control group were rated as adjusted (Shure, 1979). Subjects were subsequently separated into a retraining group and a control group, with the retraining group receiving an additional year of ICPS instruction. Interestingly, one year or two years of training were equally effective in producing behavioral change, but the two-year group exhibited greater gains in ICPS skills (Shure & Spivack, 1975). However, those students who had received two years’ training had the highest adjustment scores of all the groups at follow-up three years later (Shure, 1993).

Another evaluation study reported that 75% of inhibited preschoolers who received four months of ICPS training were later rated as adjusted, whereas only 35% of those in the control group were so rated (a result that is significant at the .01 level). Similar findings were reported for the adjustment ratings of previously impulsive preschoolers (Shure et al., 1994).

An ICPS investigation was also conducted with inner-city fifth-graders; a single four-month exposure to ICPS training resulted in increased prosocial behaviors, but a
second four-month series (administered in grade 6) was required to reduce inhibited and impulsive social behaviors as determined by peer and teacher ratings (Shure & Healey, 1993). This study also provided support for the mediating effect of ICPS skills, “particularly solution skills,” on social behaviors, as students “who most improved in solution skills also most improved in...the extent to which they are liked by their peers” (p. 7). A weakness in this report is the provision only of raw data; no statistical procedures are reported, so it is difficult to interpret the authors’ findings.

A set of five meta-analyses of ICPS training effects conducted by Denham and Almeida (1987) supported its relation to adjustment and prosocial behavior. Specifically, the magnitude of observed social behavior differences were found to be moderate to large (mean effect size = .75, n=7 studies), a result the authors enthuse is “a major breakthrough for ICPS theory” (p. 402). Also, a mean effect size of .58 was found for adjustment (n=20 studies) and a moderate effect was found for ICPS training on social competence rating scores (.52; sd .41., n=10). Other findings of note in this meta-analysis were that younger children and children classified as at-risk reaped a stronger benefit from ICPS training, and interventions of at least 40 sessions’ duration were more effective.

Implementation issues. Implementation of ICPS would require purchase of the I Can Problem Solve manuals, priced at $39.95 each, as well as expenses associated with inservice training of teachers by pupil services personnel—estimated at .10 FTE (Shure et al., 1994). The curriculum is designed to be taught by the regular classroom teacher, but could be adapted for use by counselors and psychologists.
**Strengths and weaknesses.** The ICPS program has several strengths. It is strongly supported by several years' worth of evaluation studies that have demonstrated its efficacy in increasing children’s prosocial behaviors and improving overall psychoeducational adjustment, as rated by teachers. Also, the program is simple to administer, and is commercially available at low cost; support services are also offered.

However, ICPS also has weaknesses. The research base for this program has failed to specifically consider its effects on the future incidence of internalizing disorders, thus it remains unclear if this program will prove effective in reducing these rates. Another weakness that ICPS has is the lack of integration into the regular education curriculum, which likely limits the generalization of problem-solving skills. Finally, as is true of all curricular programs, ICPS lacks a comprehensive approach to prevention.

**Promoting Alternative Thinking Strategies (PATHS)**

*Multiyear program.* The Promoting Alternative Thinking Strategies (PATHS) is a comprehensive, classroom-based curriculum that was designed to teach children emotional recognition and labels, self-control, and social problem-solving. These three skills are believed to be key in the promotion of students’ resiliency, and consequently the prevention or reduction of emotional and behavioral problems. The program is didactic in nature, consisting of a developmentally sequenced set of sixty 20-30 minute lessons. Typically, these lessons are taught by the classroom teacher three times per week over the course of the entire school year, beginning in first grade, and continuing through the fifth grade.
Theoretical grounding. The Promoting Alternative Thinking Strategies (PATHS) program is based upon the theoretical ABCD (affective-behavioral-cognitive-dynamic) model of development, which posits that there is a "developmental integration of affect... behavior, and cognitive understanding as they relate to social and emotional competence" (Greenberg, Kusche, Cook, & Quamma, 1995, p. 118).

Behavior skill-building approach. Topics of lessons in the PATHS curriculum cover a spectrum of life skills and include identification of feelings, appropriate expression of emotions, emotional management, impulse control, decision-making steps, communication skills, and delaying gratification. Rather than simply providing information to the students, the lessons provide for experiential learning of the concepts, thus fostering retention and generalization. For example, the Feelings Unit includes lessons on emotional labeling that invite the children to create a "feelings box" to keep at their desks. As they learn new emotional labels, they make "feelings faces," which they then put into the box. Throughout the day, the students use the "feelings faces" from their box to communicate their emotional state. The authors believe that these lessons foster "self-recognition of their own feelings and the recognition of emotions in others, affective self-monitoring techniques, training in attributions that link causes and emotions, [and] perspective-taking skills..." (Greenberg, Kusche, & Cook, 1991, p. 4).

Targeted correlates. The potential efficacy of the Promoting Alternative Thinking Strategies curriculum in the reduction of internalizing disorders lies in its ability to enhance students' social competence through the synthesis of self-control, emotional awareness and understanding, and social problem solving.
Empirical support. Research involving the PATHS program support this potential efficacy. A one-year trial conducted in three Seattle school districts included thirty 2nd and 3rd grade classrooms with a total of 286 students. Both regular and special education students were represented in this study. It was shown that students who received the PATHS intervention had an improved emotional vocabulary, a heightened understanding of cues for recognizing emotional changes in others, and a greater sense of efficacy about their ability to self-regulate their emotions (Greenberg et al., 1995). In regards to depression and anxiety, fewer internalizing symptoms were reported by teachers on the CBCL-TRF (Achenbach, 1991a) for the special-needs students who had participated in PATHS. Also of interest was the confirmation of a three-way interaction of intervention by psychopathology by time. Specifically, intervention children who had moderate and high TRF internalizing scores prior to their participation in the PATHS program showed the greatest increase in sense of self-efficacy regarding emotional self-regulation, whereas the comparison children with high initial TRF internalizing scores declined significantly in sense of self-efficacy at post-test [F(2, 253) = 4.1, p<.01].

The Promoting Alternative Thinking Strategies curriculum has also been field-tested with deaf, hearing-impaired, learning disabled, emotionally disturbed, gifted, and mildly mentally delayed children, with positive results similar to those demonstrated in the Seattle study (Greenberg, Kusche, & Mihalic, 1998).

Implementation issues. Implementation of the program requires a two- or three-day teacher workshop, and is estimated to cost $15-45 per student annually over a
three-year period, with the higher cost reflecting the expense of hiring an optional on-site coordinator. The curriculum has been translated into Dutch, French, and Hebrew.

**Strengths and weaknesses.** PATHS has many strengths to recommend it for implementation. First, the program uses available personnel, and integrates social skills themes into the regular education curriculum across several academic grade levels to foster generalization. Second, the program is offered commercially, and necessary support is available. Third, evaluation research has supported its efficacy in reducing future internalizing symptomatology in children.

Like all of the curricular programs, however, PATHS has weaknesses as well. The primary weakness is once again the lack of a comprehensive effort to ameliorate psychopathology by focusing on the entire system within which the child functions. Another weakness is the instructional time that is required for its implementation, together with the necessary time and expense of training teachers.

**Rational Emotive Education (REE): The PASSPORT Program**

**Multiyear program.** Yet another curricular-based approach to prevention of internalizing disorders is Rational-emotive education (REE), the latest incarnation of which is Vernon’s (1998) *The PASSPORT Program*. Subtitled *A Journey Through Emotional, Social, Cognitive, and Self-Development*, this self-descriptive program consists of a series of three books that contain developmentally-sequenced lessons for each of the four content areas listed. Ideally, classroom teachers or counselors teach the 30-45 minute REE lessons two or three times per week throughout the entire school
year—although the author notes that “even a weekly lesson is sufficient to present concepts and involve students in activities and discussion designed to facilitate their emotional adjustment” (Vernon, 1990, p. 329). The entire set of lessons spans from first through twelfth grade.

**Theoretical grounding.** PASSPORT, together with all REE programs, has as its theoretical foundation Rational Emotive Behavior Therapy, which posits that irrational beliefs precede negative affect and behavior, particularly depression and anxiety. These irrational beliefs are distinguished by their absolutistic demands (e.g., if she liked me, she would call me every night), shoulds (e.g., Life should always be pleasant), and needs rather than wants (e.g., I need to have lots of friends). Such irrational thoughts are disputed or challenged, leading to their replacement with more rational, and less disturbing, thoughts (Vernon, 1990).

**Behavior skill-building approach.** PASSPORT lesson plans include the following: a developmental perspective, objectives, a list of necessary and optional materials, procedures for the stimulus activity, discussion questions, and suggested follow-up activities. Many of the lessons also include reproducible worksheets for use in the lesson activities. A variety of techniques are employed to present the material to the children in an entertaining fashion. A sampling of these include movement games such as musical chairs or toss the bag, stories, puppets, art activities such as creating collages (a particularly creative lesson presented to 4th graders encourages the children to build towers out of toothpicks), role plays, and skits. Not surprisingly, one of the strong points
of this program is that children like it; the author of an evaluation study of Vernon’s (1989) earlier program, *Thinking, Feeling, and Behaving*, enthused,

> “the activities in Vernon's (1989) curriculum were enjoyable and instructive for the children. All of the suggested lessons were age appropriate and interesting...the teacher commented that her students enjoyed participating in the study and that before each lesson they were excited about the first author coming...students mentioned repeatedly that they enjoyed the lessons, materials, and objectives of the activities. Students seemed to particularly enjoy the Cause/Effect unit, which included activities regarding consequences of behavior. They also mentioned that they wanted the first author to return and present more lessons at the conclusion of the study” (Donegan & Rust, 1998, p. 256).

All this fun activity is undertaken to facilitate students’ learning and generalization of concepts such as emotional awareness and appropriate expression, the relationship between beliefs and behavior, self-acceptance, effective problem solving, and healthy frustration tolerance (Vernon, 1996).

**Targeted correlates.** The likely ability of REE to reduce the incidence of internalizing disorders in youth is thus linked to its facilitation of emotional resiliency in students through direct instruction in self-regulation. Additionally, the focus on rational social cognitions potentially mediates improved social outcomes.

**Empirical support.** Research has been conducted on REE, with encouraging results. Donegan and Rust (1998) tested the *Thinking, Feeling, and Behaving* curriculum with a group of twenty culturally diverse (13 male, 7 female; 6 African American, 14 Caucasian) students in a 2nd grade classroom at a public school in rural Tennessee. The experimental group received the curriculum twice weekly for fifteen weeks; a matched comparison group received only the standard 2nd grade curriculum. Following this intervention, the children’s self-esteem scores as measured by the McDaniel-Piers Young
Children's Self-Concept Scale (McDaniel & Piers, 1973), a self-report based upon the Piers-Harris Children's Self-Concept Scale, and a teacher rating scale entitled the Behavioral Academic Self Esteem scale (BASE; Coopersmith & Gilberts, 1982) were compared. The researchers found a significant difference between the experimental pretest and posttest scores \([F(1, 37) = 4.35, p < .001]\); conversely, the comparison group rated their self-concepts similarly on the pretest and posttest.

Gossette and O'Brien (1993), in a meta-analysis of REE effects, reviewed 33 dissertations (fifteen of which originated at Hofstra University, where the authors are located) and 4 published studies that evaluated the effects of REE. Although their article clearly sought to discredit REE, their conclusion was that 25% of the comparisons favored an REE program relative to the wait list, placebo, and other treatment groups. Specifically, for the dissertations alone, REE was determined superior to alternate treatments in reduction of anxiety (25% of the studies), improved classroom behavior (17% of the studies), and reduced "neuroticism" (43% of the studies). Published studies, as might be expected, offered greater support for the intervention: 54% of the comparisons were favorable for REE. Unfortunately, Gossette and O'Brien (1993) fail to provide data that discriminate between the treatment conditions on the various outcome measures.

A previous review published in School Psychology Quarterly offered more flattering data regarding REE. Hajzler and Bernard (1991) reviewed 21 studies that evaluated the effects of REE and concluded that anxiety had been decreased in 80% of the
studies, behavioral problems were reduced in 50% of the studies, and self-esteem was increased in 50% of the studies.

Implementation issues. The programs are generally inexpensive: each volume of the PASSPORT Program sells for $32.95, and little or no facilitator training is required, although Vernon does recommend a 2 to 3 hour inservice for teachers unfamiliar with rational-emotive behavior therapy principles; additional minor expenses are needed for purchase of some of the materials used in the lessons, although most schools have many of the items (e.g., magnifying glasses, hula hoops, etc.)

Strengths and weaknesses. Rational emotive education thus holds preliminary promise of successfully reducing rates of internalizing disorders, to the degree that such disorders in children might be attributable to, or mediated by, irrational thinking and poor self-concept. At least one reviewer of REE was pleased with its ease of use, and reported that: “The major strength of Vernon’s curriculum is that it is very user friendly. It is well-organized in both the lesson plan format and the sequencing of the lessons. The plans are easy to follow” (Gunter, 1990, p. 92). The program is commercially available and inexpensive.

Weaknesses that REE shares with other curricular programs are: (1) lack of a comprehensive approach to prevention of psychopathology, (2) instructional time demands, and (3) need for teacher training. Another critical weakness is the equivocal support that evaluation studies and meta-analyses have lent REE. It appears that there are strong opinions both for and against Rational-emotive education, and that these may be
affecting the interpretation of data in these studies. Thus, it remains unclear at this time whether or not REE effectively reduces future incidence of internalizing psychopathology.

**Comprehensive Programs**

Similar to the curricular programs discussed above, many of the comprehensive primary prevention programs also include didactic, cognitive, and social skills training components. However, comprehensive programs cast a broader net with which to foster resiliency among school children. Often, parent training programs are offered, in response to research that suggests that “poor family management practices are related to a variety of problem outcomes” (Haggerty, Catalano, Harachi, & Abbott, 1997, p.16). Classroom and school-wide discipline protocols might be included in a comprehensive program, as might various teaching strategies such as cooperative learning or peer tutoring. Thus, they are in a better position to meet the criteria set forth by Durlak (1999) and Weissberg et al., (1991) for comprehensive, multicomponent interventions with an ecological approach.

As was true for the curricular programs that were presented, the comprehensive programs described herein were selected on the basis of their representativeness of the category. Also, each of the programs meet the above criteria for effective prevention programs, together with the criteria that was applied to the curricular programs, namely, a solid theoretic foundation, empirical support, and behavioral changes as the primary target. Finally, each of the programs address one or more correlates of depression or anxiety in children. Thus, four comprehensive programs are included in this review: (1) Achieving, Behaving, Caring (ABC), (2) Primary Mental Health Project (PMHP), (3) Raising Healthy Children (RHC), and (4) Ready...Set...R.E.L.A.X.
Achieving Behaving Caring (ABC)

*Multicomponent program.* The Achieving Behaving Caring (ABC) Project was designed by researchers at the University of Vermont and combines social skills instruction with a collaborative process called Parent-Teacher Action Research (PTAR) in hopes of lessening the risk of developing emotional and/or behavioral problems among students who have been identified as at-risk in kindergarten (McConaughy, Kay, and Fitzgerald, 1998). It is one of just 13 demonstration projects supported by the U.S. Department of Education Office of Special Education and Rehabilitative Services, and is the only program described in this paper that directly compares outcomes of the program with outcomes from an alternate program: social skills training alone (Fitzgerald, McConaughy, and Kay, 1997).

*Theoretical foundation.* The Achieving Behaving Caring project does not rest upon any particular theoretical base; however, it does draw from previous literature expounding the usefulness of combined parent-teacher consultation, parent training, and social skills programs in combating social-emotional disorders in children (McConaughy et al., 1998).

*Behavior skill-building approach.* The first component of this comprehensive program is social skills instruction provided in the classrooms by the regular education teacher. However, the ABC project is unique in that the teachers choose which curriculum they wish to use. Programs that were used in the studies included Lion's Quest (Quest International, 1990), Second Step (Beland, 1988), Skillstreaming the Elementary School Child (McGinnis & Goldstein, 1984), and a teacher developed program. The
lessons cover communication, interpersonal skills, personal skills, and response skills, and
are taught at least twice per week, for 15-20 minutes per lesson; additionally, letters are
sent home to inform the parents of the specific social skills their children are learning
(Fitzgerald et al., 1997).

The second component of the ABC project is PTAR. The researchers state that
PTAR is "an outgrowth of 50 years of educational research" and "provides a structure to
bring parents and teachers together as equal partners in identifying goals and developing
action plans for individual children" (McConaughy et al., 1998, p. 82). The PTAR team
includes the child's teacher, parent(s), and a parent liaison (paraprofessionals who mediate
between the parents and teachers). Several ground rules are established: (1) the parents
speak first, (2) a team member may pass, or stop the meeting altogether, (3) ideas are
recorded verbatim, (4) statements are framed positively if at all possible (McConaughy et
al., 1998). Adhering to an adaptation of the Making Action Plans (MAPS; Forest &
Pearpoint, 1992) format, the teacher and parent first discuss the student's strengths and
preferences, and then their dreams and fears for the child. The team then sets goals for the
child, and selects measures to assess progress during the upcoming year. After the initial
meetings, the parents and teacher "collect data that is pertinent to each of their goals,
observing and interacting with the child, and making notes in ways that suit each of them
best," and then bring this data to the next meeting in order to formulate a "practical
theory" about the child's behavior (Fitzgerald et al., 1997, p. 3). At this time, an action
plan is developed to test the theory; this is then carried out, evaluated, and new theories
and plans are tested. Meetings typically last one hour, and take place an average of every
three weeks. PTAR is thus a cyclical procedure that fosters a working relationship between the parents and teacher to benefit the child, in contrast to traditional forms of parent involvement in which the parents are typically relegated to the role of helpers, with the teachers occupying an expert role (McConaughy et al., 1998).

Targeted correlates. The Achieving Behaving Caring project components are consistent with recommendations that collaboration among families and schools be included in comprehensive prevention programs for emotional disturbance, and research supporting the efficacy of such collaboration in producing academic, social, and behavioral gains for children (McConaughy, Kay, & Fitzgerald, 1999). Social skills training is also indicated for prevention of emotional disturbance, as demonstrated by a meta-analysis of social skills interventions conducted by Zaragoza, Vaughn, and McIntosh (1991): 27 studies were evaluated, and all but one was found to produce significant positive effects in outcome measures. Thus, the ABC project potentially increases students' social competence, academic achievement, and family resilience.

Empirical support. Research on ABC's efficacy began in 1994 with a longitudinal study of two cohorts of first- and second-grade children in eleven schools located in rural New England. The cohorts included 102 children, of whom 70% were boys, selected on the basis of exhibition of externalizing or internalizing behaviors as determined by teacher report using the Systematic Screening for Behavior Disorders (SSBD; Walker & Severson, 1990) and the Teacher Report Form (TRF; Achenbach, 1991b). Students were then matched by gender, classroom assignment, and TRF total problem scores, and randomly assigned to either the social skills instruction only group, or the PTAR plus
social skills instruction group. Behavioral ratings provided by teachers at the end of one year revealed a statistically significant group x time effect for internalizing symptoms among the PTAR/social skills group \([F(1, 80) = 4.27, p = .42]\); at the end of two years, the gains had been maintained. Additionally, teachers reported that these students had fewer social problems than the control group at post-intervention (McConaughy et al., 1999, 1998).

Since the teachers were not blind to treatment group assignment, independent observers using a structured observation method (DOF, Achenbach, 1986) were also used to provide an unbiased assessment. Those students who had participated in the PTAR/social skills group were rated significantly lower on internalizing behaviors, especially nervous/obsessive or depressed behaviors \([F(1, 78) = 5.28, p = .024]\), and higher on social skills. Over the course of the study, the control group actually increased in internalizing and externalizing problem behavior, whereas the treatment group decreased in both problem areas. Finally, parents rated students in the treatment group as significantly more socially competent, cooperative, and self-controlled. It should be noted also that there were significant time effects, with improvements across all indices occurring in greater magnitude after two years of intervention than after only one year (McConaughy et al., 1999, 1998).

Interestingly, the lack of a no-treatment control group can be viewed primarily as a strength of this study. Clearly, without a control group, the true magnitude of effect cannot be determined. However, since the PTAR group received higher ratings across the board than did the social skills only group, it is clear that this parent-teacher collaboration
provided some additional benefits to those previously established for social skills instruction. Inclusion of a control group in future research on the ABC program might strengthen this conclusion.

**Implementation issues.** Costs associated with the implementation of ABC include: (1) recruitment and training of parent liaisons, together with wages, (2) large amounts of staff time for the PTAR meetings and subsequent data collection, (3) inservice training for teachers in the process, (4) expenses incurred for purchase of social skills instructional materials, together with training and materials as required for the program, and (5) supervision expenses. The developers of the project recommend that parent liaisons be employed by an outside agency, as this tends to decrease parent resistance to engage in the team meetings. Another concern is that both teachers and parents must volunteer for the time-intensive process, thus some children may fail to receive needed services.

**Strengths and weaknesses.** The Achieving Behaving Caring Project has many strengths to its credit. The first is that its efficacy in reducing future internalizing symptomatology has been empirically supported through longitudinal research. The second is that it fosters behavior generalization through its focus on collaboration between parents and the school system, specifically the classroom teacher. Finally, inclusion of a social skills curriculum selected at either the classroom or building level substantially increases the likelihood that the program will be implemented with fidelity.

However, there are a few weaknesses to this program as well. Specifically, ABC, although rooted in previous research, fails to provide a theoretical rationale for its design. Second, there are huge time requirements for teachers and parents who participate in the
PTAR process, as well as training costs. It cannot be ruled out that teachers and parents who choose to take part in this time-consuming process might foster greater resiliency to psychopathology in their students through their superior dedication to the student’s well-being. Until this confound is controlled for, it cannot be unequivocally stated that PTAR added to social skills training is better than would be social skills instruction alone.

**Primary Mental Health Project (PMHP)**

*Multicomponent program.* Possibly the prevention project with the longest evaluation history is the Primary Mental Health Project (PMHP). This unique comprehensive prevention program began in 1957 as a small demonstration project in a single Rochester elementary school, and has since evolved into a widely disseminated, multi-state, multi-program project serving thousands of children and supported by a nonprofit agency called PMHP, Inc. (Cowen, 1980; Weissberg, Cowen, Lotyczewski, & Gesten, 1983). As Stein and Polyson (1984) caution, “Because of its scope and national impact, the Project deserves careful attention, particularly with regard to efficacy” (p. 940).

*Theoretical grounding.* The theoretical foundation of the Primary Mental Health Project is somewhat obscure. This lack of a sound theoretical basis for PMHP may be a result of the early history of the project: Cowen (1980) notes that, “A coincidental meshing of several experiential strands, rather than high theory, got PMHP started” (p. 134). Thus, the body of literature that has accumulated around PMHP does not provide specific information regarding its theorized mechanism of efficacy; however, certain hints can be detected. For example, PMHP’s humanistic roots are evident in Hightower’s
(1997) statement that a “warm, trusting, empathetic, and mutually respectful associate-child relationship is the foundation on which changes in children are made possible” (p. 203). Thus, PMHP seeks to reduce future emotional disorders by the early detection and treatment of maladjustment through humanistic play therapy.

Behavior skill-building approach. In terms of meeting Durlak’s challenge to focus on changing behaviors rather than attitudes and feelings, PMHP does so indirectly, and only as a secondary focus. The specific format of PMHP has changed little over the years. Essentially, there are four steps: (1) students are screened for the presence of externalizing and internalizing symptomatology; (2) an assignment conference is held to select students and form intervention plans for them; (3) the child meets with a nonprofessional “child associate” (who operates under the supervision of a mental health professional) for individual meetings in a playroom; and (4) conferences are conducted to assess progress at midyear and end-of-program—either the school year or semester (Hightower, 1997).

The screening process is systematic: at the beginning of the school year, all children are screened with teacher rating scales. Additionally, parent interviews and direct observations might be used to refer students; older children can also complete a self-report that assesses internalizing, externalizing, social, and school interest behaviors (Hightower, 1997; Cowen, 1980).

Following the screening procedure, an assignment conference is attended by the PMHP team, which typically includes the classroom teacher, a school mental health professional, the child associate, the principal, and other school personnel. During this
meeting "an attempt is made to understand the child's needs and to set up appropriate intervention goals" (Cowen, 1980, p. 138).

After obtaining parental consent, the nonprofessional child associate commences meeting with the child in 25 to 45 minute play sessions. Usually, these meetings are held weekly. The exact content of these sessions is difficult to determine; as described by Hightower (1997):

"The child associate's first and ongoing responsibility is to develop a healthy relationship with the child. There is no cookbook recipe for doing this. Any effective relationship must reflect the uniqueness of the individuals involved...Therefore, each associate-child relationship is special and will require a pinch of this and a smattering of that, depending on what is needed at the time for just the right outcome...a child associate can use his or her special combination of natural and life-learned skills to help children deal with existing problems and develop needed competencies" (p. 203).

The actual activities engaged in by the child and child associate consist of play, coupled with communication of the associate's unconditional support and empathy via reflections of the child's statements or play behavior. During the course of the year, the child associate receives weekly supervision by the school mental health professional. Cowen (1980) notes that this mode of providing indirect services differs from the traditional role of the professional, which he asserts "points to new, more socially utilitarian {sic} roles" (p. 139).

At midyear, and at end-of-program, progress conferences are held to review the progress; these meetings serve to update each PMHP team member on the status of the child and the degree to which intervention goals have been attained. At this time also, plans might be adjusted if progress is unsatisfactory, or to address new concerns.
Targeted correlates. PMHP potentially fosters resiliency in students by enhancing their self-esteem. Also, it is thought that the relationship between the child associate and the student helps the child to develop emotional self-regulation and acquire social problem-solving competencies.

Empirical support. As of 1980, PMHP had published over 60 evaluation studies; that number continues to grow, due in part to the centrality of research to PMHP (Cowen, 1997). Since “the most central research question for any new program is whether it works,” data regarding student outcomes is especially critical (Cowen, 1980, p. 142). What the data reveals is equivocal. Weissberg et al. (1983) reported that an analysis of outcome findings for seven annual cohorts between the years 1974 and 1981 that included a total of 2,310 participants provided “evidence testifying to the effectiveness of the PMHP model,” despite admitted methodological shortcomings in each of the selected studies--most notably, the lack of a control group, omission of important data, and the use of teacher and aide ratings as the primary measure of change (p. 106). The supportive data reported in this published summary were that “improvement occurred in at least 5 of 7 years for all adjustment factors except CARS [Classroom Adjustment Rating Scale] and ASEF [Aide Status Evaluation Form] Acting-Out” subscale (italics in original, p. 103). Significant findings for individual cohorts ranged from a 78% to a 100% increase in scores on adjustment measures. Pertinent to this report is that statistically significant change scores were obtained on both the teachers’ and aides’ ratings of shy-anxious behaviors. However, this encouraging report was questioned by Stein and Polyson (1984) in their meta-analysis of PMHP studies that included an untreated control group. The authors
concluded that: “Rather than showing strong and internally consistent results supporting treatment efficacy, positive outcomes are only inconsistently found,” and that “the typical PMHP-referred child is only modestly improved relative to control, reference children” (p. 944). In regards to the change in the Shy-Anxious subscale scores reported by Weissberg et al. (1983), this meta-analysis estimated an effect size of only .18.

Recent evaluations of PMHP projects have yielded stronger support for the program’s efficacy. For example, a combined 4-year evaluation found that PMHP participants enjoyed increased self-confidence and social problem-solving skills, together with less shyness (Meller et al., 1994, in Hightower, 1997). Cowen et al. (1996) summarize data from statewide program evaluations spanning 5 years (1989-1994) in California and report that effect sizes on teacher-reported total problems and competency scales ranged from .37 to .49; similar findings from evaluations of programs in Washington State are also detailed.

In recent years, PMHP has expanded to include in its repertoire of interventions a group support program children whose parents are divorcing (Children of Divorce Intervention Program—CODIP), a school-wide social skills training entitled Enhance! Social Competence Program (ESCP), and a collaborative community initiative known as the Rochester Early Enhancement Project (REEP). PMHP, Inc., continues to collect outcome data via program evaluation reports that are compiled annually, and these are available for one dollar each from the company headquarters.

Implementation issues. Implementation of PMHP requires the recruitment and training of the child associates (mental health paraprofessionals) by the project
supervisors; it is estimated that 24 to 36 hours are required for the initial training. 

Training is also required for the professionals who implement the project and supervise the child associates. PMHP, Inc. offers these professionals a 3-day intensive workshop at an expense of $300 at their Rochester, New York, headquarters, and offer ongoing support if desired, at an additional cost (PMHP website). Considerable personnel expenses include time required for direct supervision, informal and formal assessments, and multiple conferences; these demands upon school personnel make this a costly program to implement on a district-wide basis—although the program is touted as “cost-effective” due to the extensive use of nonprofessionals (Weissberg et al., 1983). Additional outlays are necessary for designation of space for the child associate’s playroom, which is necessary to provide privacy, and appointment of the room with suggested toys and materials such as puppets, dolls, doll houses, stuffed animals, games, and a sandbox (Hightower, 1997). Finally, a program manual is available at the cost of $40.00; also available through PMHP headquarters are a variety of other books, technical reports, and training services.

Strengths and weaknesses. Unquestionably, PMHP’s greatest strength is the overwhelming body of evaluation research which continues to this day. Its commitment to ongoing evaluation is commendable and should set a standard for all prevention programs. Another strength is the availability of project support through the PMHP headquarters.

Unfortunately, PMHP, although widely implemented and researched, still suffers from equivocal support. The reported results from these evaluation studies frequently lack data that might allow the reader to interpret their stated findings. The author of this report encountered substantial difficulty in this regard. Also, although the use of
paraprofessionals has increased in popularity in recent years, PMHP does not provide a theoretical rationale for its use of such persons as the primary change agents in its program; further, it is unclear as to the reason that this arrangement was initially undertaken, although it may be surmised that a lack of properly trained psychological professionals likely drove that decision. PMHP does not appear to address specific behavioral competencies, either, nor does it operate with a specific goal in mind. Another major weakness is the tremendous outlay of money needed to implement this program. Recruiting, training, and supplies are all quite costly. Finally, considerable instructional time is lost to the children who participate in the program.

Raising Healthy Children (RHC)

Multicomponent program. A comprehensive broad-based preventative program that has as its stated goal to “provide interventions that bond students to family and school and consequently reduce this risk [development of problems in adolescence]” is the Raising Healthy Children (RHC) project (Cummings & Haggerty, 1997, p. 28).

Developed by the Social Development Research Group in Seattle, Washington, this project extends earlier research involving the Seattle Social Development Project (Hawkins, Catalano, Morrison, O’Donnell, Abbott, & Day, 1992), in which the facets of the program were shown to increase positive attachment to school and family, decrease antisocial behaviors, and increase academic achievement scores. The new project thus expands its focus to include not only externalizing behavior problems, but also future internalizing psychopathology.
Theoretical grounding. This project is theoretically based upon the social development model first articulated by Hawkins and Weis (1985), in which it is hypothesized that bonds to family and school serve to inhibit the exhibition of behaviors that violate established social standards (e.g., academic failure, antisocial behaviors, withdrawal, etc.), as well as foster overall psychological well-being.

Behavior skill-building approach. Raising Healthy Children incorporates a three-pronged plan to attain its goals: (1) staff development strategies, (2) parent strategies, and (3) student strategies. These strategies are varied.

Staff development strategies are focused on increasing teachers’ instructional and classroom management capabilities. In a series of workshops, teachers are taught proactive classroom management techniques, rationale and implementation of social problem-solving skills curriculum, methods to motivate at-risk students, cooperative learning techniques, and specialized reading teaching methods. Teacher coaching is also offered twice-monthly to assess the teachers’ use of proactive teaching, and to assist teachers with various difficulties; to increase observational learning, teachers may view videotaped sessions of their own performances in class, and get a half-day substitute so that they might watch other teachers employ the project techniques (Haggerty et al., 1997).

Parent strategies include school-based evening workshops addressing proactive family management techniques, rationale and methods for helping children succeed in school, drug abuse prevention, and various other topics. Additionally, home-based services are offered to selected families considered at high risk; this consists of twelve
weeks of visits that follow a standardized protocol of: assessment, goal setting, development of objectives, intervention, and assessment of outcomes. During these voluntary visits, parents are provided with much of the workshop curricula, in a naturalistic fashion. Finally, a monthly newsletter is sent home to each participating family.

Student strategies include the teaching of integrated social skills. Eight social skills were determined through consensus among the project teachers as essential in school (complimenting, recognizing feelings, proper reporting rather than tattling, manners, listening, anger management, sharing, and problem-solving). Units were developed for each of these skills using *The Get-Alongs* (Cummings, 1993) booklets, which are designed to integrate with reading units. For example, “students identify the qualities of a good friend from the characters in *Charlotte’s Web*” (Cummings & Haggerty, 1997, p. 28).

Each unit requires approximately one month to cover, which is broken down into a 45-minute lesson the first day, and 5-10 minute practice activities such as role-plays, stories, art activities, etc. on subsequent days. Other student strategies are a two-week half-day summer camp that focuses on social skills and reading, and an after-school study club.

*Targeted correlates.* The beneficial effects that RHC might have on decreasing internalizing symptomatology rests in its focus on fostering strong peer, student-teacher, and familial relationships, the social skills training element potentially increases social competency, leading to increased self-esteem; and academic achievement is encouraged through the study clubs, summer camps, teacher coaching, and parent sessions.
Empirical support. Approximately one thousand first- and second-grade students in ten elementary schools located in Edmonds, Washington participated in a three-year project which began in 1993 to evaluate the effectiveness of RHC. Schools were randomly assigned to the intervention or control groups, and data was collected at multiple points. Accounting for the nested study design, the researchers used hierarchical linear modeling to analyze student behavior checklist and observational data. This revealed that the treatment group demonstrated “significantly greater positive growth in the areas of social competency” (data not provided) as compared to the control students and that “positive student involvement teaching practices significantly predicted fall to spring difference scores in students’ social competency” at the p = .001 level (Haggerty et al., 1997, p. 23; Harachi, Abbott, Catalano, Haggerty, & Fleming, 1998, p. 22). Higher levels of school commitment and a decrease in antisocial behaviors have also been noted (Haggerty et al., 1997).

Implementation issues. Materials for the RHC program are commercially available. The entire 8-book series of The Get Alongs, together with a curriculum guide and an audiotape with the books set to music costs $39.95. Classroom management books and software range from $5 to $95, and there are a number of video tapes that demonstrate these methods; these cost $85 up to $319, but are also available for rental. Parenting videos and programs are also available. Implementation of RHC requires a School Home Coordinator in each school (approximately .7 FTE); additional expenses include substantial training costs, teacher and academic time costs, and costs associated with the summer camp and after school programs. Thus, this program would represent a
significant financial and time investment for a district or building, both initially and continuing.

**Strengths and weaknesses.** The Raising Healthy Children project has many strengths to recommend it for implementation to reduce internalizing symptomatology. Like the other comprehensive programs, its focus on multiple facets of the child’s environment increase its potential efficacy. Also, the project was designed around a solid theoretical base and was then evaluated in this regard, using innovative statistical methods to account for confounds such as time and treatment fidelity. Finally, an outstanding array of support materials are available at reasonable cost.

In terms of weaknesses, results obtained in the pilot study of the Raising Healthy Children project have yet to be replicated, so a paucity of data exists to date. Another weakness that is difficult to avoid in this type of program is the need to elicit the participation of parents in the many program components that serve to foster improved family interactions. Finally, it is clear that adoption of this program by a district or building would require substantial investments in personnel time for training, planning, and implementation.

**Ready...Set...R.E.L.A.X (RSR)**

*Multicomponent program.* The Ready...Set...R.E.L.A.X. program is included in this section as a comprehensive program, not only because it is a multi-modal preventative intervention, but because it represents a departure from target-specific interventions and provides a broad, sweeping attempt to ameliorate anxiety at a different level than do any of the curricular programs. Developed by a school and clinical psychologist, Roger Klein,
Psy.D., and educator and principal Jeffrey Allen, RSR is a research-based, innovative approach to prevention through the use of progressive muscle relaxation combined with visual imagery and relaxing music. An ancillary component is the teaching of positive self-talk through follow-up activities.

Theoretical grounding. The use of progressive muscle relaxation as a preventative intervention for anxiety and depression is supported in the literature. Spillios and Janzen (1983, as cited in Allen & Klein, 1996) found that learning disabled children who were highly anxious improved after participating in a relaxation program. Using physiological measures of heart rate and respiration rate as the dependent variable, another study cited by Allen and Klein (1996) revealed that 24 fourth-graders who had received 18 progressive muscle relaxation sessions had significantly lower rates at post-test than did the control students. Kiselica, Baker, Thomas, and Reedy (1994) demonstrated that SIT (stress inoculation training), of which progressive muscle relaxation is a key component, was effective in significantly improving adolescents’ scores on measures of anxiety and stress-related symptoms; unfortunately, it cannot be determined from this report which component(s) was responsible for the results. It is also apparent that relaxation alone may not be a powerful enough intervention alone: in another study fourth grade students were divided into three treatment groups, one of which received relaxation training; no significant differences between the groups on measures of either state or trait anxiety were found (Silvestri, Dantonio, & Eason, 1996).

The addition of music and positive self-talk to the RSR program likely adds to its efficacy. Research has shown that “79% of 8- to 9-year-olds tend to exaggerate perceived
negative aspects of a stressful situation, make denigrating self-statements..." (Allen & Klein, 1996, p. 26). Positive self-talk is a technique frequently employed in cognitive restructuring therapies that have demonstrated their usefulness in reducing symptoms of depression and anxiety (Harrington et al., 1998; Lamarine, 1995; and Jayson et al., 1998). Likewise, the inclusion of music in a relaxation program is supported by studies that have indicated that listening to pleasant music reduces heart rate, pulse rate, blood pressure, respiration rate, galvanic skin response, and cortisol levels; other effects such as enhanced learning and changes in EEG have been recorded (Field, Martinez, Nawrocki, Pickens, Fox, & Schanberg, 1998; Lozanor & Balevsky, 1975, as cited in Allen & Klein, 1996; Logan & Roberts, 1984, as cited in Allen & Klein 1996).

**Behavior skill-building approach.** The Ready...Set...R.E.L.A.X. program seeks to teach students to handle daily stressors through physiological and cognitive self-control behaviors. The program is deceptively simple and consists of a set of relaxation scripts that the authors have compiled into a manual of the same title. These scripts are administered in either a group or individual format as follows: First, the child is cued to the start of a relaxation session through music, dimming of lights, and a verbal introduction; next, a selected script is read slowly, "in somewhat of a monotone voice," and the child is led through a short (10-20 minute) relaxation session that usually includes visual imagery (Allen & Klein, 1996, p. 41). Finally, the relaxation period is followed by a guided discussion.

The sixty-seven scripts are organized into five themes: (1) releasing tension, emphasizing breathing and muscle relaxation; (2) enjoyment, focusing on creative
imagination; (3) learning, to reduce test anxiety and foster academic motivation; (4) appreciation of self and others, to develop a positive self concept and social appreciation; and (5) expanding feelings to other situations, which is designed to encourage generalization. These scripts may be adapted as desired.

The authors recommend that RSR sessions occur at a regularly scheduled time (e.g., after lunch) two or three times weekly, with a sustained silent reading period taking place during that time slot on the alternate days. Also, students are encouraged to practice the relaxation techniques at home, usually at bedtime.

Targeted correlates. RSR directly targets the physiological symptoms of anxiety, and seeks to build resiliency to stress through modifying the student’s behaviors via relaxation training. Additional correlates that are affected by the program are cognitive processes (through instruction of positive self-talk), and academic functioning (through the reduction of test anxiety and behavioral rehearsal techniques).

Empirical support. Data from investigations into the efficacy of the Ready...Set...R.E.L.A.X. program are encouraging. One hundred twenty-three children in grades one through six at a parochial school in the midwest served as the experimental group; the control group was comprised of 120 students who attended another parochial school nearby. Both groups were administered the Revised Children’s Manifest Anxiety Scale (RCMAS) and the Depression Inventory for Children (Battle, 1987) at pre- and post-intervention. The parents and teachers of the students in the experimental group attended an outlined inservice, and the students were presented with a didactic workshop regarding the nature of stress and a description of the RSR program. During the
implementation period, which lasted from the fourth week of school through April, the principal read the scripts over the intercom, accompanied by music, to the students three times each week. This intervention continued at the same school throughout the second year of the pilot study. Analysis of change scores at the end of both years demonstrated that the merged treatment group had statistically lower scores for both anxiety and depression ($p < .001$), with the 1st through 4th grade cohorts having the largest gains. Also, "within-group comparisons suggest a 'cumulative' effect of the program, with more significant changes occurring at post-testing during the second year" (Allen & Klein, 1996, p. 38). Between-group comparisons, though not as robust, yielded significantly lower anxiety scores for the merged experimental group for both years. Although promising, the authors admit that these results are mixed. Treatment acceptability was found to be quite high, with 85% of the students indicating a desire to continue the R.E.L.A.X. program.

**Implementation issues.** Implementation of Ready...Set...R.E.L.A.X. is both simple and inexpensive. The book of that title costs $23.95 and contains the complete program: scripts, facilitator guides, outlines for teacher and parent inservice, and reproducibles such as an introductory letter to parents, student journal, evaluation form, and certificate of completion. Also available are CDs and cassette tapes with musical selections to accompany the scripts; they retail for $15.95 and $10.95, respectively. Personnel expenses would include both training and administration time.

**Strengths and weaknesses.** Ready...Set...R.E.L.A.X. has several strengths to its credit. One strength is its direct targeting of behaviors that have been demonstrated in the
literature to mediate anxiety and depression (i.e., negative self-talk and maladaptive physiological responses to stressors) through the teaching of positive self-talk and progressive muscle relaxation. Another strength is the ease of implementation: the purchase of a single book, together with a couple of music compact discs or cassettes, is sufficient to begin using this program in a school. Very little training is necessary, other than perhaps to provide an overview of the theoretical rationale for its use. Also, field study data provides preliminary support for its utility in prevention of internalizing symptomatology.

However, RSR also has limitations. One rather serious drawback is that it addresses only a single aspect of the child’s environment: the individual child. Since the program fails to take an ecological approach to amelioration of psychopathology, it suffers from the same weakness that the curricular programs share, namely an inability to promote generalization of learned behaviors or alter environmental contingencies that may create or foster such problems. Another weakness is that the program has not yet been subjected to enough evaluative research to unequivocally recommend it for implementation.

Discussion

This paper has attempted to set forth a rationale for the implementation of school-based prevention programs directed at the reduction of internalizing disorders among youth. A review of the prevention literature was presented (which included secondary as well as primary prevention efforts, since most of the studies employed a subject population with varying degrees of psychopathology). Next, a sampling of
representative programs currently in use was provided, together with an analysis of their strengths and weaknesses.

It should be clear from this presentation that such programs hold substantial promise in succeeding at their stated goals. However, the benefits demonstrated through the few evaluation studies that have been undertaken are frequently modest at best, because the research of primary prevention programs is fraught with difficulties.

A fundamental problem is that universal prevention seeks to ameliorate future psychopathology within a normal population. This is quite difficult to demonstrate, since the base rates are low to begin with; thus, huge samples are needed to reach the statistical significance needed to support the hypotheses of the study, namely, that the intervention led to reduced rates of internalizing pathology among its participants. This is often not possible in a school setting (Durlak & Wells, 1997). Unfortunately, this serves to obscure the real clinical benefits that may accrue to students through the implementation of the program in an actual school setting, and may thus discourage practitioners from using such programs.

Another difficulty is the lack of sufficient outcome data provided in studies of prevention programs that might be efficacious in reducing internalizing symptomatology. Compas et al., (1997), note that:

“One of the defining characteristics of depression in young people is the pattern of comorbidity with other disorders...a glaring omission in previous studies has been the evaluation of the impact of interventions on other problems and disorders...that is, interventions designed to prevent a host of other problems have failed to measure their impact on the prevention of depression”
This oversight substantially limited the number of projects included in this paper; many programs that were strikingly similar in content to the reviewed interventions were excluded because evaluation studies failed to present any data relating to internalizing problems. This is particularly unfortunate, since comorbidity is so common among students with internalizing symptomatology and exacerbates the negative sequelae experienced by these children; such information would be doubly useful in the selection of prevention programs that potentially reduce a variety of psychological difficulties.

A major methodological flaw in much of the research is the lack of adequate randomization. Since most of these studies occur within a school setting, randomization by individuals is not pragmatic, nor is randomization by classrooms a sufficient alternative, due to a host of accompanying confounds: potential between-group differences, treatment diffusion, and differing maturation effects. Randomization by school districts compounds these difficulties. Also, the vast majority of such research is conducted with a convenience sample, significantly reducing the generalizability of findings to the general population (Whiston & Sexton, 1998). It should be noted that these flaws are typically not due to researcher oversight, but rather, to the substantial monetary and practical restrictions placed upon them in their research efforts. Increasingly, it is difficult to obtain sites for study and consent to engage in the type of research that is most needed (e.g., stratified randomization, strict controls, etc.).

Since these methodological problems exist, it is difficult to definitively state whether or not a particular program is effective. Also, a great many potentially efficacious programs have not yet been subjected to the rigorous research needed to establish their
usefulness. Therefore, education professionals seeking to ameliorate psychopathology via a primary prevention program that they might employ in their schools face considerable hurdles in trying to ascertain which programs to select.

Yet another concern is that the interventions themselves may lack sufficient power to significantly reduce internalizing symptomatology among at-risk children. Unfortunately, the programs face inordinate obstacles toward the achievement of the goal of instilling resiliency in those young persons with the greatest need for these protective factors. Cowen (1997) discusses the overwhelming stressors that many children face daily, e.g., violence, family chaos, substance abuse, and poverty, and laments:

"even the best and most comprehensive of them may be too little and too late for increasing numbers of children whose formation and early life experiences so markedly shape the outlook and problems they bring to school, that the school’s mission may, de facto, be defeated before it starts. Given the severity of their problems and life situations, there is little reason to expect that 20 meetings with a compassionate, caring adult, or even the best executed wellness enhancement program for that matter, should turn a bleak situation of such magnitude and chronicity around" (p. 112).

Elias et al. (1991) concur, and suggest that “interventions in elementary schools may be considered necessary but not sufficient as protective factors in the lives of many children” (p. 416). This failure to intervene in the child’s milieu is a likely culprit in the disappointing results obtained in many outcome studies. Similarly, it has been noted that many prevention programs simply do not last long enough to engender long-lasting behavioral change (Compas et al., 1997; Weissberg et al., 1991). Therefore, it should not be surprising that the effects demonstrated by the evaluation studies that were undertaken for the reviewed programs were modest at best.
Implementation problems also might reduce the observed efficacy of preventative efforts. Korinek and Popp (1997) assert that a broad range of responsibilities are faced by educators, and so there is a considerable reluctance to reallocate academic time to social skills instruction or other curricula aimed at prevention. The ensuing “lack of full participation by all teachers is undoubtedly the most critical flaw of traditional forms of social-emotional curriculum development” (Evans, 1992, p. 42). Financial constraints are also a major hindrance to broad dissemination of effective programs. Seppa (1997) notes that “it all costs money, and schools have less and less of it” (p. 3). As budgets strain to cover the expenses of basic academics, there may be little left to accommodate optional programs for at-risk students. The need to conserve time and monetary resources creates a tendency to scrimp on program implementation; thus, treatment integrity frequently suffers as a result, resulting in lowered program benefits.

All of these factors need to be taken into account when selecting a prevention program from the many options available. Education professionals who are aware of the limitations of the research can thus more confidently choose a program that meets their needs, while remaining cognizant that no program has a definitive “seal of approval.”

Recommendations

Primary prevention programs aimed at the amelioration of internalizing symptomatology in the elementary aged population are a worthwhile addition to the curriculum in any elementary school, as the potential for improving the emotional, social, and academic functioning of a substantial number of students is strong. However, this
endeavor is not without difficulties. Therefore, seven recommendations to maximize the potential for successful interventions are now offered.

First, programs should be selected that meet the criteria for effective primary prevention programs that have been previously outlined in this paper: (1) targeting multiple risk factors, (2) have a solid theoretical foundation, (3) enjoy empirical support, (4) focus on behavioral change, and (5) designed for multi-year implementation (Durlak, 1999; Weissberg, 1991). Such programs enjoy the greatest likelihood of success. Many of the programs reviewed in this paper meet most of these criteria; where they fall short, they might be improved by the addition of components from other well-researched programs, or with minor modifications (e.g. adding a peer-tutoring component to a curricular program to foster generalization of new skills, implementing a program in Kindergarten through sixth grade rather than in just one or two grades, etc.).

Second, prevention programs should be selected that intervene systemically, rather than focusing solely on the individual student. Such multilevel interventions that focus on the child’s total environment, including peer groups, school, family, and community, are likely to be far more successful in promoting lasting behavioral changes than those that are directed solely at the individual (Elias et al., 1991; Weissberg, Caplan, & Harwood, 1991). As noted by Weissberg et al. (1991), “the success of skills training programs may depend largely on their attention to changing socialization patterns and supports in the intervention setting,” the authors thus encourage an ecological perspective to prevention (p. 836). Not all of the programs included in this review achieve this goal; thus, the burden lies with those who select such programs to carefully choose from among
the available choices, and add components that broaden the reach of that program. For example, a curricular program such as PASSPORT may be selected. Although an excellent curriculum with strong potential to reduce internalizing symptomatology, this program lacks an ecological focus. Thus, the team selecting this program may also choose to add a parent-teacher action research component such as that employed in the ABC program.

Third, long term implementation is needed to maximize the efficacy of any program. Thus, it is important to choose a program carefully and then commit to its use for several years at least. As Durlak (1999) notes, "prevention is designed to affect future adjustment...develop a realistic rather than a quick-fix perspective regarding the value of prevention" (p. 5). Since true resiliency requires not only the acquisition of knowledge, but also accompanying changes in cognitive patterns and behavior, brief interventions likely do not provide enough time for long-term effects to occur (Elias et al., 1991; Weissberg et al., 1991). Also, it is not possible to determine what effects the program is actually having until several years at least have elapsed.

Fourth, evaluation of the program needs to be a part of its implementation. Under the current climate of accountability in education, any program that receives public funding must demonstrate that it works. Additionally, it must be cost-effective. During the early stages of planning, administrators and practitioners need to determine how they will accumulate data that can adequately justify the program's inclusion in their building, as well as add to the body of research supporting these efforts.
Fifth, instruction in behavioral competencies (e.g., social skills, emotional self-regulation, etc.) should be integrated into the academic curriculum to the greatest degree possible. Generalization of skills learned in isolation from the student’s environment rarely occurs; also, teachers are understandably reluctant to be assigned additional subject matter to teach. Therefore, the systematic integration of skills into the general curriculum is a more reasonable approach toward mastery of these valuable abilities, and adds “relevance and immediacy to the skills” for the students (Korinek & Popp, 1997, p. 153). Also, such lessons should be developmentally sequenced and utilize culturally sensitive teaching methods that require active student engagement and focus on behavioral change (Durlak, 1999; Weissberg, Shriver, Bose, & Delfaco, 1997).

Sixth, when selecting primary prevention programs, it must be remembered that “universal interventions need to be complemented by selective interventions that are delivered to subgroups within the population who are distinguished on the basis of exposure to personal or contextual risk factors” (Compas et al., 1997, p. 160). Although universal prevention efforts are crucial to reduce future pathology in the general population, they may be insufficient for students who already evidence symptomatology or who face multiple, chronic, or severe stressors. Therefore, the administrators and practitioners that select primary prevention programs should also have secondary prevention and early intervention programs in place to assist students with immediate needs.

Seventh, efforts need to be made to reduce resistance to the implementation of primary prevention programs by precisely those persons who are most critical to the
program's success: teachers, administrators, and parents. There are a number of reasons for the resistance that one may encounter. Among the more common objections are a lack of instructional time to devote to curricular components of a program, a lack of training in social-emotional areas (or even a belief that these needs should not be addressed within the school setting), and differing theoretical orientations among the individuals involved (e.g., a cognitive-behavioral program is suggested for implementation, but several of the teachers reject the notion that a student's thinking might cause them emotional difficulty, believing instead that the home environment causes the student's problems). Careful consideration of these matters at the outset of the selection process can reduce some of the expected resistance. Specifically, input needs to be solicited from those who will be actually using the program and plans need to be made for personnel such as school counselors and psychologists to provide adequate support to teachers and others. Also, strong "salesmanship" on the part of those choosing the program will go a long way toward its ultimate success.

It is hoped that this paper provides information for administrators and school-based psychological practitioners that is helpful in their selection of primary prevention programs to implement in their sites. The prevention of internalizing disorders in children will take the concerted efforts of many such committed professionals.

However, it is also recognized that the recommendations made herein may be difficult for many districts to follow, given the perennial lack of adequate funds and personnel in public education. Nevertheless, it is suggested that such sites proceed with the implementation of a prevention program under whatever conditions are currently
possible, and make concerted efforts in upcoming years to move closer to an "ideal" intervention project. For example, it may not be initially feasible to conduct program evaluations on the selected project due to personnel and monetary constraints. Such a restriction should not delay the adoption and implementation of a well-designed program. The negative sequelae of internalizing symptomatology in the student population warrants immediate action, even if such should be somewhat limited in the beginning stages.

As a final note, it would be beneficial if future research would focus on the efficacy of specific components within each intervention, so as to reduce the programs to their essential core. Evans (1992) suggests: "we should first determine what works and then seek to find common elements across successful interventions" (p. 42). Distilling these programs down to their 'lowest effective dose' could be quite helpful in the political necessity of persuading legislatures and school boards that school-based prevention of internalizing disorders is a cost-effective enterprise, and thus, worthwhile (Whitson & Sexton, 1998).
References


Disciplined and Drug-Free Schools Conducive to Learning" Conference, Washington, D.C.


