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THE RELATIONSHIP OF DEPRESSIVE SYMPTOMS, IQ, ABILITY-ACHIEVEMENT DISCREPANCY, AND CLASSROOM PLACEMENT IN THE LEARNING DISABLED ADOLESCENT

by

KAREN A. HOWARD, M. S.

A dissertation submitted to the Graduate Faculty in Educational Psychology as partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

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Abstract

THE RELATIONSHIP OF DEPRESSIVE SYMPTOMS, IQ, ABILITY-ACHIEVEMENT DISCREPANCY, AND CLASSROOM PLACEMENT IN THE LEARNING DISABLED ADOLESCENT

by

Karen A. Howard, M. S.

Advisor: Professor Georgiana Shick Tryon

Few studies have examined the effects of special education placement on learning disabled (LD) students as it relates to severe emotional distress, such as depression. Previous research, although scant and methodologically flawed, has suggested that a correlation exists between LD and depression (Cohen, 1985; Dalley, Bolocofsky, Alcorn, & Baker, 1992; Goldstein, Paul, & Sanfillipo-Cohn, 1985; Hall & Haws, 1989; Heath & Wiener, 1996; Huntington & Bender, 1993; Maag & Behrens, 1989; Rodriguez & Routh, 1989; Stevenson & Romney, 1984). Since no studies have examined the extent to which an LD adolescent's level of depression is mediated by variables such as IQ, classroom placement, and the ability-achievement discrepancy, this study represents an initial investigation into these areas.

All records of LD students in a regular, academic public high school located in New York City, New York, who had recently been evaluated were reviewed. Those who met the inclusion criteria and consented to participate were included in the study. The scores of 26 resource room students and 26 students in self-contained class settings on the Weschler Intelligence Scale for Children-Third Edition (WISC-III), Wechsler Individual Achievement Test (WIAT), as measures of ability and

achievement, respectively; the Beck Depression Inventory-II (BDI-II); and the Devereux Behavioral Rating Scale-School Edition (DBRS-S), which includes a "Depression" subscale and was administered to guidance counselors, were statistically analyzed.

The results indicated that although LD students in resource room and self-contained classes did not differ in levels of depressive symptoms as determined by self-report (BDI-II), guidance counselors tended to rate LD students in resource room as more depressed than LD students in self-contained classes. Forty-five percent of the sample rated themselves with mild (or greater) levels of depressive symptomatology, and 32% rated themselves as being within the "moderate" to "severe" level of depressive symptoms (score of 20 or greater). Guidance counselors rated 43% of the total sample as being within the clinically significant range of severity on the DBRS-S. None of the assessed covariates (i.e., age, gender, grade, SES) correlated with depression. IQ functioning and the ability-achievement discrepancy) did not relate significantly to depressive symptoms.

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The Relationship of Depressive Symptoms, IQ, and Classroom Placement in the Learning Disabled Adolescent

CHAPTER 1

Introduction

Studies examining the emotional functioning of special education students have been conducted since the inception of special education programs in the 1970s. In addition to attempting to create a "profile" of the learning disabled student, much of the research has examined the effects of special education on the self-concept and/or self-esteem of students placed in these programs (Ayres, Cooley, & Dunn, 1990; Chapman, 1988; Cooley & Ayres, 1988; Jones, 1985; Montgomery, 1994; Raviv & Stone, 1991; Widaman, MacMillan, Hemsley, Little, & Balow, 1994). An area receiving less attention in the literature is the extent to which learning disabled students suffer from more severe degrees of emotional distress. Current research indicates that children and adolescents, in general, are at risk for depression (Birmaher et al., 1996; Fleming & Offord, 1990; Garrison et al., 1997; Kashani et al., 1987; Kessler et al., 1994; Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993; McFarlane, Bellissimo, Normal, & Lange, 1994; Roberts, Roberts, & Chen, 1997; Workman & Beer, 1989). The National Institute of Mental Health (1997) estimates that 3% of children and adolescents suffer from depression. Consistent with the vast research cited above that learning disabled adolescents have negative self-concepts and self-perceptions relative to non-disabled adolescents, it may be that adolescents with learning disabilities are also at greater risk for depression (Cohen, 1985; Dalley, Bolocofsky, Alcorn, & Baker, 1992; Goldstein, Paul, & Sanfillipo-Cohn, 1985; Hall

& Haws, 1989; Heath & Wiener, 1996; Huntington & Bender, 1993; Maag & Behrens, 1989; Rodriguez & Routh, 1989; Stevenson & Romney, 1984). Results of the few studies comparing depression in learning disabled and non-disabled adolescents are mixed with teachers (Hall & Haws, 1989) and peers (Rodriguez & Routh, 1989) rating learning disabled adolescents as more depressed and learning disabled adolescents rating themselves as no more depressed (Beer & Beer, 1992; Maag & Reid, 1994; Rodriguez & Routh, 1989) than non-disabled adolescents. These results are consistent with findings by Moss, Prosser, Ibbotson, and Goldberg (1996) that individuals with learning disabilities experience difficulty in self-reporting psychiatric symptoms. Thus, any study of depression in learning disabled adolescents should include symptom ratings by others who know the adolescents well in addition to ratings by the learning disabled adolescents themselves.

It is possible that depressive symptomatology in learning disabled adolescents is associated with other variables such as type of classroom placement. Learning disabled students may be included in classrooms with non-disabled peers and provided with special education resource room assistance. These students may also be placed in self-contained classes with other learning disabled students. Cohen (1985) indicates that depressed adolescents are saddened by perceived discrepancies between what their life is and what they feel it ought to be. It is possible that learning disabled adolescents in self-contained classrooms feel that they ought to be included with nondisabled peers in regular classrooms. Thus, learning disabled adolescents in self-contained classes may have more depressive symptoms than learning disabled adolescents included in regular classrooms. There has been some research on the

relationship of the type of class placement and self-concept in learning disabled children and adolescents (Forman, 1988; Rogers & Saklofske, 1985, as cited in Forman, 1988; Yauman, 1980, as cited in Forman, 1988), but no studies have examined depression and class placements in learning disabled adolescents.

Another variable that may be associated with depression in learning disabled adolescents is IQ. Some authors (e.g., Brumback & Staton, 1983; Livingston, 1985; Yasutake & Bryan, 1995) have suggested that there are complex interrelations among depression, learning disabilities, and intelligence. One group of authors (Colbert, Newman, Ney, & Young, 1982) has even implied that learning disabilities may be a symptom of depression. For the most part, empirical evidence concerning these relationships is lacking. Some studies have found a positive correlation between depressive symptoms and verbal IQ (Goldstein, Paul, & Sanfillipo-Cohn, 1985; Tsatsanis, Fuerst, & Rourke, 1997) and a negative correlation between depressive symptoms and performance IQ (Brumback, 1985; Goldstein et al., 1985; Tsatsanis et al., 1997) in learning disabled students. The few studies in this area have focused mainly on children. Research with adolescents is needed in this area.

Learning disabilities themselves may be perceived as a discrepancy between what is and what ought to be (Cohen, 1985). Learning disabled students' achievement is not commensurate with ability (Fletcher & Morris, 1986). It may be that larger discrepancies between ability and achievement are associated with more depressive symptomatology. Although some of the available research addresses both intelligence (ability) and academic achievement in depressed vs. nondepressed samples (Brumback, Jackoway, & Weinberg, 1980; Horan, Pogge, Borgaro, Stokes,

& Harvey, 1997; Tsatsanis et al., 1997), a comprehensive search of the literature yielded only one study that investigated the relationship between IQ, academic achievement, and depression in a sample of learning disabled children (Goldstein et al., 1985). This study found that for learning disabled students, depression was significantly correlated with both reading and math achievement, but not with IQ. However, neither this study nor any of the others addressing achievement and ability specifically examined the discrepancy between the two as it relates to depressive symptomatology in LD students. Further investigation of this relationship is needed and was one objective of the current study.

This research assessed depressive symptomatology in a population of special education, learning disabled adolescents in an urban, New York City high school as it related to the restrictiveness of placement (i.e., mainstream with resource room vs. self-contained classes), level of cognitive functioning (as assessed by IQ), and the ability-achievement discrepancy. Thus, this research addressed issues that have previously been either uninvestigated or underinvestigated.

CHAPTER 2

Learning Disabilities

Despite the fact that the term "learning disabled" (LD) has been in use since the inception of special education programs in the 1970's, there still exists a great deal of controversy over its definition. Although the available definitions vary, most contain several common elements: neurological dysfunction, uneven growth pattern, difficulty in academic and learning tasks, discrepancy between achievement and potential, and exclusion of other causes, such as medical illness (Lerner, 1988). The core feature of most definitions of learning disabilities is the idea that achievement is not commensurate with ability. Learning problems may be identified when the child is functioning two years below grade level; has achievement scores that fall one standard deviation below IQ scores; or is deemed as having "average" intelligence, but is performing below age expectancy levels (Fletcher & Morris, 1986). Thus, definitions of LD encompass a wide range of possibilities. Lerner (1988) states that "defining this (LD) population is considered such a formidable task that some have likened learning disabilities to pornography: each is impossible to define, but you always know it when you see it" (p. 6).

Identifying LD children is problematic for both researchers and clinicians because of the apparent range of learning problems and the lack of a generally accepted operational definition. Much of the research tends to rely on "exclusionary definitions that select learning disabled learners according to the absence of certain problems (e.g., low intelligence) that potentially explain the learning problem" (Fletcher & Morris, 1986, p. 55). In addition to being poorly operationalized,

definitions of LD have also not often been empirically studied and are typically based on prior practice. This has contributed to discrepant findings in the literature, as results are often confounded by sample characteristics that are the result of different selection criteria (Fletcher & Morris, 1986).

The current research utilized the definition of "learning disabilities" that conforms to current federal and New York State regulations. The federal definition of "learning disabilities" is set forth in the Individuals with Disabilities Education Act Amendments of 1997 (IDEA 97), which is also known as Public Law 105-17 (P. L. 105-17). This law is a reauthorization of the Education of All Handicapped Children Act (Public Law 94-142), that was originally passed by Congress in 1975. The primary purpose of the law is to ensure a free, appropriate public education to children ages 3-21. Under P. L. 105-17, students identified as having one of thirteen identified disabilities are entitled to special educational services. "Specific learning disability" is one of these disability categories and is defined as:

> ...a disorder in one of more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or do mathematical calculations.....includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia....does not include a learning problem that is primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage (P. L. 105-17, Section 602, 1997).

A multidisciplinary evaluation team may determine that a "child has a severe discrepancy between achievement and intellectual ability in one or more of the following areas: (i) Oral expression; (ii) Listening expression; (iii) Written expression; (iv) Basic reading skill; (v) Reading comprehension; (vi) Mathematics calculation; or (vii) Mathematics reasoning" (P. L. 105-17, 1997). It should be noted that IDEA provides no criteria to establish this severe intellectual ability-achievement discrepancy. Thus, different states and organizations are left to establish their own criteria for identification of LD students. The New York State Education Department defines "learning disability" using the federal guidelines, including the aforementioned definition set forth in P. L. 105-17, and adds that "a student that exhibits a discrepancy of 50 percent or more between expected achievement and actual achievement determined on an individual basis shall be deemed to have a learning disability" (New York State Education Department, 1998).

Consistent with this definition, the Diagnostic Statistical Manual of Mental Disorders - 4th Edition (DSM-IV; American Psychiatric Association, 1994) states that Learning Disorders are identified when:

> ....the individual's achievement on individually administered, standardized tests in reading, mathematics, or written expression is substantially below that expected for age, schooling, and level of intelligence. The learning problems significantly interfere with academic achievement or activities of daily living that require reading, mathematical, or writing skills. *Substantially below* is usually defined as a discrepancy of more than 2 standard deviations between achievement and IQ. A smaller discrepancy between achievement and IQ (i.e., between 1 and 2

standard deviations) is sometimes used.... (APA, 1994, p. 46).

Despite the fact that there is a general consensus on what constitutes a learning disability, there still exists debate about the criteria and methods used to identify LD. As stated before, current definitions continue to be criticized as being vague and difficult to operationally define. Ross (1995) suggests that many students are mislabeled as LD due to inadequate and unclear guidelines. The identification process using ability-achievement comparisons has been widely criticized as being fraught with methodological problems (Bennett & Clarizio, 1988; Braden & Weiss, 1987; Clarizio & Phillips, 1989; Cone & Wilson, 1981; Hanna, Dyke & Holen, 1979; McKleskey & Waldron, 1991; Ross, 1992, 1995; Schuerholz et al., 1995). Schuerholz et al. (1995) state that "any approach to an LD definition that relies on quantifying the discrepancy is compromised by the many possible factors that can widen or narrow the gap between ability and achievement, and by the statistical properties of the particular test instruments used to quantify ability, achievement, and discrepancy" (p.19). Some researchers have suggested that the ("simple" or "true") ability-achievement discrepancy method is not a valid indicator of LD, and that regression analysis procedures are better indicators to identify LD (Bennett & Clarizio, 1988; Braden & Weiss, 1987; Cone & Wilson, 1981; Ross, 1992). Other research (Clarizio & Phillips, 1989) finds no differences in the accuracy of ability-achievement discrepancy methods when compared with regression methods.

The continuing debate surrounding the definition and identification of learning disabilities makes it difficult to research the problems and characteristics of LD students. Until consensus on an operational definition of LD is reached, each

researcher should clearly specify the criteria used to select LD subjects, so that results of studies employing the same criteria may be compared. In this study, the currently accepted definitions and methods used to identify LD as put forth by the New York State Education Department (presented above) were utilized. The New York State guidelines are used in the school where the study was conducted.

Prevalence

The DSM-IV estimates that Learning Disorders occur in 2% - 10% of the population, and that 5% of public school children have a Learning Disorder (APA, 1994). A study by the United States Department of Education (1997) reveals that the number of students currently served in special education programs has risen steadily (over 150 %) since 1976. Currently, over 5.5 million students in the United States are served in federally supported programs for the disabled. Of this number, approximately 46 % of these students are classified as having a "specific learning disability". In relationship to regular education students, currently 12 % of the total student enrollment (grades K-12) are considered disabled, with 5.75% of total (K-12) students identified as having a "specific learning disability", consistent with the DSM-IV estimate. Approximately 59% of those students identified as LD are reportedly receiving special education services for their learning problems in school. Of these students, approximately 41% are enrolled in regular classes; 39% are served in a resource room program; and 18 % are enrolled in special classes. The remaining students are served in special school facilities, both public and private, including hospital and prison settings.

Characteristics of Learning Disabled Adolescents

As early as 1974, coincidentally around the period of the inception of special education, researchers began to identify children who presented with learning difficulties as well as emotional factors that occurred along with their learning problems. Schecter (1974) identified organic factors and psychosocial factors as contributing to retardation in learning. One of the psychosocial factors identified at that time was depression. Since then, although a great deal of research has been done with LD students, relatively little has addressed the presence of depression in this population, particularly in adolescents.

Children and adolescents who are diagnosed with learning disabilities are subject to a host of academic difficulties as a function of their weaknesses. Academic success can be compromised by learning disabilities, and a great deal of attention is being focused on the extent to which educational systems are appropriately addressing these problems. In addition, an increasing amount of attention is being paid to the extent to which LD students, specifically adolescents, are also at risk for other difficulties, including behavioral, psychosocial, and emotional problems. Hayes and Sloat (1988) proposed that LD students are at an increased risk for suicide. Silver and Hagin (1985) state that:

> ....for an individual with a learning disability, the outcome in academic, social, vocational, and psychological adjustment is the result of many factors: the causes, extent, and severity of the learning disability; the presence of complicating attentional deficits, hyperactivity, and neurological signs; the cognitive and biological substrate with which the child comes into the world; the psychological

> defenses he has established; and, most important, the adequacy and appropriateness of the environmental and educational support he receives. With this complex interplay of forces, it is not surprising that long-term reviews of the outcomes of children with learning disabilities report inconsistency in outcome (p. 197).

In a review of the literature, Johnston (1984) suggested that the primary focus of the existing research on the LD adolescent is comprised of the following: 1) studies on verbal and/or language functioning; 2) effects of LD on self-concept; 3) impact of interventions and strategies on learning and/or emotional behaviors of learning disabled students; 4) cognitive style of LD students; 5) and other miscellaneous studies. Depression in LD adolescents is not identified as a major area of research. Whyte (1983), while stating that research in the field is scant, identified several problem areas inherent to the LD adolescent, including academic underachievement or dysfunction; cognitive processing deficits; and emotional/social factors as prevalent difficulties in the LD adolescent population. In her review of the literature, she found that most studies focused on instructional techniques and remediation of the LD adolescent. However, her research led her to conclude that traditional approaches to remediation of learning weaknesses were generally unsuccessful with the majority of LD students, since most techniques tended to ignore the emotional aspects of the child. Whyte suggested that educators "must treat the whole child" (p. 139), particularly the LD adolescent:

> Their learning deficiencies involve their academic underachievement, inefficient learning strategies, cognitive processing deficits, personality factors,

and their emotional reactions to their deficiencies. The complex interaction of variables must be understood before we can devise completely effective instructional methods" (Whyte, 1983, p. 139).

Gregory, Shanahan, and Walberg (1986) attempted to create a "profile" of an LD adolescent using information from a previously completed national survey, part of the "High School and Beyond" study conducted in 1980 by the National Center for Education Statistics. Of the over 26,000 12th graders who were questioned, 1.7 % identified themselves as having a specific learning disability. Gregory et al. (1986) used the subjects from this study and compared them with non-disabled peers. They found that LD students, in comparison to their non-disabled peers, tend to be: older; over-represented by minority groups (i.e., Black, Hispanic, Asian-American); and of lower socioeconomic status. They also had lower scores on tests of academic achievement and presented with other handicapping conditions (i.e., speech impaired, hearing impaired, orthopedically handicapped). The LD subjects also reported lower estimates of adjustment and significantly more external loci of control. Relative to nondisabled peers, they portrayed themselves as less physically attractive and described their friends as less school-oriented and their parents as less interested in their school work and personal lives. LD students also reported a home environment that was less conducive to learning and intellectual stimulation, more cases of involvement with the legal system, and more working hours. Less motivation related to their school-work, more school-related difficulties, completion of less homework, and enrollment in fewer academic courses (i.e., English, math) were also detailed. Although methodological weaknesses were reported by the authors (i.e., self-

identification of "specific learning disability"), the large scale nature of this study presents striking findings. Most important is the finding that subjects reporting learning disabilities also reported lower levels of academic performance, self-esteem, adjustment, and motivation for learning (Gregory et al., 1986).

Consistent with this is a study by Chervin (1986) that suggests that children and adolescents classified as LD also present with specific social and emotional issues as well. The author's descriptive research of the characteristic feelings of a sample of LD students led him to propose that the majority of them presented with "doubts, fears, worries, and embarrassment" (p. 331) as a function of their learning and emotional difficulties.

Outcome Studies with LD Adolescents

In a follow-up study of LD adolescents, Levin, Zigmond, and Birch (1985) attempted to assess their progress four years after they were diagnosed and had entered a 9th grade program for LD students. The authors describe the subjects as being "typical" LD students: old for their grade placement with severe reading and moderate math delays. At follow-up, only 13% were no longer enrolled in special education classes (and had returned to the mainstream), and 31% were still enrolled in special education classes. The majority of these students presented with "significant" academic gains on retesting. However, a large percentage (47%) of the students had dropped out of school (9% could not be located), indicating a poor prognosis associated with a diagnosis of LD and special class placement (Levin et al., 1985).

Along similar lines, a study by Winters (1997) suggested that learning disabilities are a major factor in youth crime and delinquency. LD students have a higher rate of

school failure that is often a result of poor attendance in school. The frustrating, devaluating environment of the classroom typically experienced by the LD student often leads to failure. LD students often feel inept in comparison with their achievement-oriented peers, and because they more acutely experience a lack of success, they will therefore search for "alternative careers." Since adolescents typically need to experience the acceptance of a peer group, and some LD students feel left out of school, this encourages some to join street gangs (Winters, 1997).

When attempting to understand how having a learning disability contributes to negative adaptation and adjustment problems (i.e., emotional difficulties), Morrison and Cosden (1997) identified specific risk factors, as well as protective factors, which may contribute to differing outcomes in adolescents diagnosed with learning disabilities. Although the risk factors are also related to negative outcomes in "normal" populations, their presence in the life of LD adolescents may further exacerbate their difficulties. One identified risk for additional emotional problems in the LD student is depression. Factors such as "parental disappointment, family rigidity or disorganization, school disruptions, and school failure" (Morrison & Cosden, 1997, p. 54) put the learning disabled student at greater risk for negative emotional, familial, and societal outcomes. The prognosis for the LD student, however, is not always negative. In fact, many LD adolescents do not suffer from severe, long-term negative outcomes. The authors also identified factors of resiliency that serve to protect the individual, including "self-esteem, high verbal skills, and a delineated understanding of one's disability" (Morrison & Cosden, 1997, p. 54). Other resiliency factors include "good parenting skills, appropriate expectations for

the child with the learning disability, and flexibility in family functioning" (Morrison & Cosden, 1997, p. 54).

Another longitudinal study (Werner, 1993) also suggests that the long-term outcomes for LD students are not as negative as previously assumed. All children born in 1955 on the island of Kauai, Hawaii, were followed from birth to age 32. When a group of LD students were compared to a matched cohort sample as late as age 18, their prognosis for adult adjustment was considered "poor" because they had problems in school, mental health problems, and juvenile delinquency records that students in the matched sample did not have. However, a follow-up of this sample in 1987 found that "by age 32, the life course of most LD individuals had considerably improved" (Werner, 1993, p. 31). The percentage of those who had mental health problems or delinquency in adolescence had decreased considerably and was similar to the cohort sample. Marriage/divorce rates, employment rates, measures of satisfaction of different areas (i.e., marriage, job, relationships), and other variables were similar for the LD and cohort samples at age 32. The only differences were pursuit of schooling beyond high school (the cohort sample tended to pursue higher levels of education) and satisfaction with school achievement (the LD sample was less likely to be satisfied with their performance while in school). Although a variety of buffers, or "protective" factors, were identified as contributing to these positive outcomes, one variable was identified as playing a prominent role in all the lives of the LD students who presented with positive outcomes: "self-esteem promoted through supportive relationships.... The LD youngsters who overcame the odds all had at least one person in their lives who accepted them unconditionally, regardless of

temperamental idiosyncrasies, physical attractiveness, or level of intelligence" (Werner, 1993, p. 33). In sum, although the LD student may be more susceptible to negative outcomes (emotional, or otherwise), certain protective factors may exist to buffer those individuals from long-term negative maladjustment.

In an attempt to explain the underlying reasons for the prognosis of learning disabled adolescents, one needs to look at the psychological and emotional difficulties experienced by the adolescent as inherently different from those experienced by the elementary child in the school environment. As students enter junior high school and high school, the assigned academic work becomes more complex, and the adolescent is required to work more independently. According to Cohen (1985), LD adolescents show two specific structures in reference to their problems with work and learning: "(1) problems owing to the cognitive disability itself; and (2) problems owing to psychological factors that are directly or inherently related to being learning disabled" (p. 179). The experience of being LD is reported to affect a variety of areas pertaining to the self. First, Cohen suggested that LD adolescents tend to evidence two major affective patterns. They tend to experience considerable "distress and anxiety", as well as a "low-level, chronic depression" (Cohen, 1985, p. 180). Cohen describes these feelings as extending beyond the performance situations in school. In terms of anxiety and distress, he says that:

> ...learning disabilities, result, to a greater or lesser extent, in moments of helplessness and confusion and feelings of humiliation and failure. These moments are repeated but cannot be predicted or anticipated because of the intermittent nature of most mild to moderately severe learning disabilities. Their

> unpredictable nature can only underscore the person's experience of helplessness and, as a result, suffering and the anxious anticipation of failure and humiliation (Cohen, 1985, p. 181).

According to Cohen (1985), there exists a complex relationship between learning disabilities and psychological development. An important conclusion that Cohen (1985) reaches suggests that learning disabilities may be an "organizer of the adolescents' sense of identity" (p. 187).

Placement Issues and LD

When a student is identified as being "learning disabled", decisions regarding his or her education placement are made following an evaluation process. Current practice dictates that LD students are placed in some sort of special education setting. "Special education" is:

> .... specially designed individualized or group instruction or special services or programs.... provided at no cost to the parent, to meet the individual needs of students with disabilities. (1) Such instruction includes but is not limited to that conducted in classrooms, homes, hospitals, institutions and in other settings... (New York State Education Department, 1998).

Current practice also mandates that students be placed in a special education setting that is deemed the "least restrictive environment" and is designed to meet that child's individual academic/educational, social, physical and management needs. "Least restrictive environment" is defined as one that: "(1) provides the special education needed by the student; (2) provides for education of the student to the maximum extent appropriate to the needs of the student with other students who do not have

disabilities; and (3) be as close as possible to the student's home" (New York State Education Department, 1998).

Typically, LD students are placed in one of two settings. Although placements are not strictly limited to these settings, LD students are usually placed in either a mainstream setting with additional academic support (i.e., resource room) or in a more restrictive setting consisting of self-contained, special classes. The "resource room program" is a "special education program for a student with a disability registered in either a special class or regular class who is in need of specialized supplementary instruction in an individual or small group setting for a portion of the school day". The more restrictive setting of "special classes" is defined as "a class consisting of students with the same disabilities or with differing disabilities who have been grouped together because of similar individual needs for the purpose of being provided a special education program" (New York State Education Department, 1998).

Historically, with the inception of special education programs, many have questioned the affect that labeling students as LD and segregating them from their peers in school has on their self-concept. Although this is a vast area of research that is beyond the scope of this paper, a sampling of studies that address these issues will be reviewed. Chervin's experience with LD students led him to conclude that many of the "negative feelings" (p. 331) that they described emerged, or were exacerbated, during periods of transition (1986). That is, the self-esteem of LD students suffered the most when the students were in the process of transition from regular to special education, or vice versa.

A sampling of the literature reveals mixed findings when observing the effects of placement on self-concept. Ribner (as cited in Forman, 1988) found that LD children who had been referred for services, but not yet placed, presented with lower academic self-concepts than children already receiving services. Rogers and Saklofske (as cited in Forman, 1988) found that LD children recently placed in a resource room program did not differ on measures of self-esteem when compared to LD children receiving similar services for longer periods of time. Yauman (as cited in Forman, 1988) compared LD students in self-contained classes with LD students in the mainstream and did not find any differences in levels of self-esteem. Forman's (1988) research on the influence of school placement on self-concept led her to conclude that there was no relationship between the two variables. A possible reason for this, she states, is that ".....special education placement may provide LD students with an appropriate social comparison group. Because students placed in resource or self-contained classrooms can compare their abilities with those of other LD children, they may hold a more positive view of themselves than LD students who are not yet receiving special education services" (Forman, 1988, p. 116).

A recent major study by Padeliadu and Zigmond (1996) investigated the perspectives of 150 LD students about their special education placement. Interviews revealed that these students perceived that "special education was a place where children went for additional help" (p. 15) typically because of poor grades or difficulties with schoolwork. Although the research revealed that most of the students had an accurate perception of special education placement (i.e., its purposes), the research did not address the students' feelings or beliefs about their placement

(Padeliadu & Zigmond, 1996). The results of another study by Beltempo and Achille (1990) indicated that the self-concept of LD children was not seriously affected by special class placement, particularly for boys. They found that LD children presented with markedly low self-concept, regardless of whether they were placed in special or regular classes. The authors suggest that pre-placement experiences may have already negatively influenced the self-concept of the LD child. This research also examined the effects of partial (i.e., resource room) vs. maximum (i.e., special class) placements, and found that LD children in maximum setting placements had the lowest global self-concepts. They also found that LD children without any type of special placement at all had lower self-concepts than students in partial placements. This indicates that the combination of partial placement and integration of LD students in regular class settings results in higher self-concepts (Beltempo & Achille, 1990). In contrast, a major study by Morvitz and Motta (1992) showed that although the self-esteem of regular education students was found to be higher than that of LD students enrolled in a resource room program, there was no difference between the self-esteem of regular education students and that of LD students in self-contained classes.

No studies have examined the relationship between placement and depressive symptoms in LD students. Most of the available studies have examined the relationship between type of placement and self-concept. Interestingly, only one study that addressed the effects of having a learning disability on levels of depressive symptomatology used students in different placements (i.e., self-contained vs. resource room; Newcomer, Barenbaum, & Pearson, 1995). However, this study did

not examine the relationship between depressive symptoms and type of placement. The present study examined the relationship between depressive symptomatology and type of placement for LD students.

CHAPTER 3

Depression

Similar to "learning disabilities", "depression" also has several definitions in the literature. In common, every-day usage, depression is typically referred to when one is describing an emotional state of sadness. Researchers and clinicians, however, have attempted to distinguish between normal moods of sadness or melancholy and the more "pathological" state categorized as depression. For example, Becker (1974) states that "sadness and mourning are normal moods whereas depression is a pathological mood" (p. 5).

Historically, there are two approaches to understanding psychopathology (Kamphaus & Frick, 1996). One is a categorical approach that is best exemplified by the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM) series. In this system, individuals are categorized as either having or not having a particular disorder based on theoretically and empirically-determined inclusionary criteria. The recent DSM fourth edition (DSM-IV; American Psychiatric Association, 1994), defines the diagnosis of "Major Depressive Episode" as meeting the following criteria:

> A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning: at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.
>
> (1) depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful). **Note:** In children and adolescents, can be irritable mood

(2) markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others)

(3) significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. **Note:** In children, consider failure to make expected weight gains

(4) insomnia or hypersomnia nearly every day

(5) psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down)

(6) fatigue or loss of energy nearly every day

(7) feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick)

(8) diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or observed by others)

(9) recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide

B. The symptoms do not meet criteria for a Mixed Episode

C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning

D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism)

E. The symptoms are not better accounted for by Bereavement, i.e., after the loss of a love one, the symptoms persist for longer than 2 months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation (p. 327)

The second approach to understanding psychopathology is dimensional. It presumes the existence of dimensions of psychopathology and seeks to measure the intensity of these dimensions using reliable and valid psychological tests. Some investigators have developed multidimensional personality inventories, exemplified by inventories such as the Minnesota Multiphasic Personality Inventory - Adolescent (Butcher et al. 1992), the Personality Inventory for Youth (Lachar & Gruber, 1994), and the Youth Self-Report (Achenbach & Edelbrock, 1991). These inventories assess several dimensions of personality, including depression, according to individual self-report. Scale scores indicate the extent to which each dimension is present. Other investigators have developed single construct personality scales such as the Beck Depression Inventory (Beck, Rush, Shaw, & Emery, 1979). The dimensional approach assumes that pathology lies on a continuum. An advantage of the dimensional approach is that the investigator can relate degrees of a particular dimension of psychopathology, such as depression, to other subject information. The dimension approach was used to assess depressive symptoms in this study.

History of Depression in Children and Adolescents

Previously, it was questioned whether or not children and adolescents were able to experience states of depression, and if they did, was their experience different from that of adults? The early literature identified instances of depressive states in children

as a result of maternal deprivation. In a famous paper, Spitz (1946; as cited in Harrington, 1993) documented the presence of severe depression, which he called "anaclitic depression", in infants who were separated from their mothers. Bowlby (1960; as cited in Harrington, 1993) also studied infants who were separated from their mothers and determined that they went through emotional stages (i.e., protest, despair, detachment) which then led to pathological effects on later development (i.e., depression, juvenile delinquency). In the 1970's, a group of researchers identified specific symptoms in an attempt to provide a standard in diagnosing depression specifically in children and adolescents. The "Weinberg criteria" included the identification of "dysphoric mood and self-deprecatory ideation, as well as any two of the following symptoms: aggressive behavior, sleep disturbance, change in attitude toward school, change in school performance, diminished socialization, somatic complaints, loss of usual energy, and unusual changes in appetite or weight" (Kazdin, 1990, p. 133). Although many of these symptoms are common to those evidenced in depression in adulthood, some (i.e., school performance) are specific to children and adolescence, while others (i.e., aggressive behavior) are indicative of "masked depression" in children and adolescence (Kazdin, 1990, p. 133). Since this time, a great deal of research has focused on the existence of depression and depressive states in children and adolescents. A recent major review of the literature suggests that, generally, the onset of depressive disorders is not until late childhood or early adolescence (Kovacs & Devlin, 1998).

Similarities and Differences of Adolescent and Adult Depression

Some researchers continue to criticize the appropriateness of applying adult

classifications, such as depression, to adolescence (Zdanowicz, Janne, & Reynaert, 1996). Today, however, it is generally accepted that adolescents experience depression in ways similar to adults. Weiner (1983) in a comprehensive review of the literature supporting the existence of adolescent depression, states that: "(1) depression can be reliably diagnosed in adolescents; (2) similar criteria can be used to identify adults and adolescents with affective disorders; and (3) there is an appreciable degree of similarity between adult and adolescent depressive symptomatology but notable distinctions as well" (p. 750). Although it is accepted that depression in adolescence does exist, according to Shafii and Shafii, the difficulty lies in differentiating depression from normal states of adolescence: "Developmentally, normal adolescents have proclivity toward depression. It is important to clearly and carefully differentiate the normal depressive mood swings of adolescence from pathological depression" (1992, p. 31). Shafii and Shafii (1992) identify major age-specific clinical features that define depressive symptomatology in adolescence. "Dysphoric mood and depressive affect" (Shafii & Shafii, 1992, p. 32) are features described in terms of intensified normal adolescent mood swings, and sadness and dysphoric mood. Adolescents are thought to be vulnerable to depressive disorders, the symptoms of which are similar to those in adulthood.

Another age-specific clinical feature is that of puberty, the emergence of which may be delayed in the chronically depressed early adolescent. In addition, the authors suggest that the depressed adolescent may have great difficulty accepting or understanding the signs of puberty, during which self-consciousness and self-doubt are intensified, and hormonal changes, along with a stressful environment, may

increase the risk for depression and possibly suicidal behavior.

Another clinical feature is the change in cognitive functioning that may occur during pubescence. Temporary cognitive disorganization may occur as a function of depression in adolescence, and as a result, school performance can become negatively affected. Some of these changes (i.e., concrete thinking, withdrawal, isolation, and low energy level) may be so significant that they give the impression of a schizoid personality or of an early form of schizophrenia. Low self-esteem is another clinical feature which intensifies depressive symptomatology in adolescents, as well as a significant contributor to depression throughout life. Depressed adolescents often experience feelings of failure, hopelessness, and helplessness, which intensify their depression and can result in a cycle of negative emotions. Shafii and Shafii also identify antisocial behavior (i.e., truancy, stealing, fighting, substance abuse) as a possible incidental occurrence in adolescent depression. Finally, other age-specific clinical features of adolescent depression include changes in sexual behavior (i.e., lack of activity or promiscuity), poor health (i.e., physical complaints), and changes in weight (gain or loss) (Shafii & Shafii, 1992).

Many different psychological theories exist that attempt to explain the development and etiology of depression in children and adolescents. A few major ones are reviewed here briefly. Psychoanalytical models, typically based on Freudian concepts, propose that depression can develop when a youngster is subjected to object loss, or when libidinal desires or other needs are not satisfied. Criticism and rejection are internalized and are a cause of conflict between the ego and superego. These are then reflected as anger and hostility toward the parents (Kazdin, 1990). Behavioral

models attempt to explain the development of depressive symptomatology through difficulties interacting with the environment. Social skill deficit models suggest that individuals become depressed when they are ineffective in their environments, and thus experience a lack of reinforcement (Kazdin, 1990). Cognitive models of depression focus mainly on the teachings of Beck (1976), whose "Cognitive Triad of Depression" model suggests that depression develops as a result of negative views of oneself, the world, and the future. Negative cognitions are thought to affect one's perceptions and judgments about events and experiences, which results in overgeneralizing or misinterpretation of the negative aspects, and then results in symptoms of depression (Beck, 1976). Seligman's (1975) theory of "learned helplessness" suggests that individuals develop depression when they expect that their actions are not effective in influencing their lives, and they also perceive a loss of control over their environment. Socioenvironmental models address the affects of major life events and stressors as inherent in the onset and development of depression in children and adolescents (Kazdin, 1990). Many of these existing models overlap, and many are used as frameworks in the literature.

Prevalence

Information from the recently conducted National Comorbidity Survey, in which a structured psychiatric interview was administered to a national probability sample in the U. S., suggests that the lifetime prevalence rate of a major depressive episode is 17%, and 10% of the respondents reported that they had experienced an episode in the past 12 months, with the highest prevalence rate noted in the youngest cohort, individuals age 15-24 (Kessler et. al., 1994).

Although there exist no national studies that specifically examine the prevalence rates of depression in children and adolescents, the National Institute of Mental Health (NIMH) reports that approximately 3% of children and adolescents suffer from clinical depression at some point in their young lives (NIMH, 1997). Current prevalence rates and epidemiology based on community sample studies vary throughout the literature. In a critical review of the literature, Birmaher et al., (1996) estimate that the prevalence rates of depression range from 0.4% to 8.3% for the adolescent population. Also for adolescents, the authors estimate that the life time prevalence rate of major depressive disorder probably ranges from 15% to 20%, and that the incidence of dysthymic disorder is estimated to range from 1.6% to 8.0% (Birmaher et al., 1996). Fleming and Offord's (1990) meta-analysis of studies of depressive disorders in childhood and adolescence suggests that, based on the available studies, rates of adolescent-identified Major Depressive Disorder range from 0.4% to 6.4%, which is generally higher than rates reported for children (< 0.3%). Another major review of the literature suggests that the rates of depression in children and adolescence range from 1.8% to 8.9%, with higher rates suggested for the adolescent groups (Angold & Costello, 1995). A large-scale, community-based epidemiological investigation of randomly selected high school students who participated in the Oregon Adolescent Depression Project (OADP) estimated point prevalence rates of unipolar depression to be 2.9%, and a prevalence rate of Major Depressive Disorder of 5.7%. However, lifetime prevalence rates, assessed at two follow-up times, were 20.4% and 25.3 %, which are relatively high (Lewinsohn et. al., 1993).

In a major study of a nonclinical sample of high school students, Kashani et al. (1987) found that 4.7% of the subjects met the clinical criteria for major depression, and 3.3% met the criteria for dysthymic disorder. In addition, an astonishing 21% of the sample reported depressive symptomatology that met the criteria for one of the clinical diagnoses, but did not result in their being "dysfunctional" or requiring treatment. McFarlane et al.'s (1994) study of a large population of high school students reported twice the rate of depression reported by the NIMH (1997). Their research found that 10.9% of the sample suffered from depressive symptomatology that occurred for a duration of approximately 8.4 months. Garrison et al. (1997), however, assessed a large community-based sample of young adolescents and found that 3.3% of the sample were experiencing depressive symptomatology. Another major study by Lewinsohn et al. (1993) found that 5.26% of a large, random sample of high school students suffered from a major depressive disorder, with females presenting with a higher rate (7.14%) than males (4.35%). The rate of dysthymia in this study, however, was significantly less, with 0.13% and 0.00% for females and males, respectively (Lewinsohn et al., 1993). Roberts et al. (1997) found an overall prevalence rate of DSM-IV Major Depression (without impairment) to be 8.4%, and (with impairment) to be 4.3% in a large sample of ethnically diverse adolescents. Workman and Beer's (1989) study of a sample high school students suggested that the majority of the sample reported mild to moderate degrees of depressive symptomatology during assessment.

Although it is apparent that adolescents are a risk for depression, the major studies discussed here vary in their reported prevalence rates. When reviewing the literature,

it is important to keep in mind that inconsistencies and differences in sample types, measurement of symptomatology, diagnoses, and other methodology may limit or impede one's ability to form any decisive conclusions.

Correlates of and Risk Factors for Depression

Although there is currently no single causative agent that can be attributed to the development of depression in children and adolescents, in addition to the variety of theories, the literature identifies certain biological, psychological, and sociocultural risk factors that may contribute to the development of adolescent depression. Certain biological factors (i.e., deficits in monoamine neurotransmitters, dysfunctioning in the neuroendocrine system, immunological abnormalities) are thought to contribute to the development of depression (Kashani & Schmid, 1992; Kazdin, 1990). Genetic factors also appear to contribute to the development of depression, as offspring of depressed adults seem to be at greater risk for depressive disorders (Kashani & Schmid, 1992). In a major study, Kovacs and Devlin (1998), for example, estimated that the rates of major depression in first degree relatives of depressed youth range from 25% to 54% compared to 14% of control groups.

Although Angold and Costello's (1995) review of the literature suggests that low SES, high life stress, low academic achievement, and various measures of family dysfunctioning are associated with the occurrence of general psychopathology, they state that no significant patterns of risk factors are specifically linked to the occurrence of depression. Overall, according to Kashani and Schmid (1992), race and socioeconomic status also do not appear to be significant factors in the general occurrence of psychiatric symptomatology of (children and) adolescents. A review of

the literature suggests that very few studies focus on the effects of either, and research in the area is scant. However, some studies do suggest ethnocultural and SES effects.

In a recent major study of a large sample of ethnically diverse adolescents, Roberts, Roberts, and Chen (1997) calculated the prevalence of depression, with and without impairment, and also looked at the affects of gender and socioeconomic status. They found that a large proportion of the Mexican-American subgroup (12%) scored high on measures of depressive symptomatology, and that a large percentage (9%) of African-American adolescents also had high rates of depression, without impairment. Lower SES groups also reported higher prevalence rates of depression than their peers of higher status (Roberts et al., 1997). On the other hand, the study by del Barrio et al. (1997) found that higher SES adolescent females scored higher on measures of depressive symptomatology. In another study, although Casper, Belanoff, and Offer (1996) found no significant differences in self-reported psychiatric symptoms overall when comparing groups of black and white adolescents, they did find a significant difference between the black and white samples when assessed specifically on measures of depressed mood. White male and female students reported more symptoms consistent with depressed mood than their black counterparts (Casper et al., 1996). Consistent with this, a group of Afro-American subjects in the National Comorbidity Study had significantly lower prevalence rates of affective disorders than their white counterparts, and prevalence rates of affective disorders also appeared to decline as SES decreased (Kessler et al., 1994).

Age appears to be an important variable in the occurrence of depression, as many studies report that the prevalence of depressive disorders appears to increase with age

from childhood to adolescence (Birmaher et al., 1996; Kashani & Schmid, 1992; Lewinsohn, Clarke, Seeley, & Rohde, 1994; Schonert-Reichl, 1994). Some suggest that this occurs as a result of the changes in the body during puberty (Poznanski & Mokros, 1994), which, since the onset of puberty differs for study subjects, can confound any observed age effects (Angold & Costello, 1995). The study by Lewinsohn et al. (1993) does not reveal age effects on the prevalence and incidence rates of depression in adolescents. The study of a national probability sample of individuals aged 15 through 54 conducted by Kessler et al. (1994) suggests that the occurrence of depressive disorders is greatest among the youngest cohort (15-24), and that prevalence rates instead decrease with age.

Most of the literature identifying age as a variable in depressive symptomatology focuses on its interaction with gender. Gender differences are a primary focus in studies of depressive disorders in adolescence. Much of the literature leads researchers to suggest that a greater number of adolescent females than males tend to suffer from depressive disorders (Angold & Costello, 1995; Casper et al., 1996; del Barrio et al., 1997; Fichman, Koestner, & Zuroff, 1994; Hart & Thompson, 1996; Kashani & Schmid, 1992; Kessler et al., 1994; Lewinsohn et al., 1993; McFarlane et al., 1994; Marcotte, 1996; Roberts et al., 1997). McFarlane et al. (1994) states that "being female is a risk factor for depression" (p. 601).

Others indicate that the variable of age interacts with gender, as more pre-pubescent males tend to suffer from depression, while after puberty, more females develop depression (Poznanski & Mokros, 1994). Schonert-Reichl (1994) also found higher rates of depressive symptomatology in older female adolescents. They

reported that although gender differences did not exist for younger individuals on measures of depressive symptomatology, older adolescent females reported more depressive symptomatology than their male counterparts (Schonert-Reichl, 1994). Marcotte (1996) found a significant interaction between age and gender on depression scores in a sample of high school students. Adolescent females, in general, showed higher rates of depression than their male peers, and their rates of depression tended to increase with age. (Similar findings were reported by Angold & Costello [1995].) Males, on the other hand, decreased in their report of depression as they matured (Marcotte, 1996). Lewinsohn et al. (1994) suggested that gender effects interact with age of onset in the development of Major Depressive Disorder (MDD), as adolescent females tended to have earlier onset MDD. Another study by Lewinsohn et al. (1993) did not find any significant interaction between age and gender on the prevalence and incidence rates of depression.

Other research assessing gender effects indicates that although a sample of adolescent females scored higher on depressive symptomatology measures than their male peers, this was true only for referred individuals (Compas et al., 1997). In this study, no significant gender differences were found to exist for a matched sample of non-referred individuals, suggesting that gender differences exist for a subgroup of adolescents referred for mental health services (Compas et al., 1997). A study by del Barrio et al. (1997) found that gender interacts with socioeconomic status. Their research showed that female adolescents, particularly those of higher socioeconomic status, score higher than those with lower socioeconomic status on measures of depressive symptomatology. Although a great deal of the literature indicates gender

differences in adolescent depression, some studies do not find any significant differences (Kashani et al., 1987).

A possible explanation for gender differences in depressive symptomatology may be the effects of gender role. Similar to other researchers, Hart and Thompson (1996) also found that females endorsed significantly more depressive symptomatology than males and suggested that these differences occur as a result of the effects of gender role identification. They identified three gender role variables ("instrumentality" [masculinity], "silencing-the-self", and "ruminating response style") as associated with depressed mood. The authors suggested that gender-typed cognitive processes, response styles, and attributes are important socialization factors in understanding the development of adolescent (female) depressive symptomatology (Hart & Thompson, 1996).

Different psychological and social factors and attributes are also identified in the literature as potentially contributing to the development of depression in adolescents. McFarlane et al. (1994) suggested that exposure to stressors (i.e., relationship losses) resulting in "life stress" are both risk and causal factors in the development of depression. These authors identified social support systems as important in mediating the development of depression in adolescents, because adolescents who reported that they have supportive parents and siblings were less likely to report depressive symptomatology. These authors also found a significant relationship between low self-efficacy and elevated levels of depressive symptomatology. Along similar lines, a major study by Workman and Beer (1989) found a significant (negative) correlation between self-esteem and depression. Fichman, Koestner, and Zuroff (1994)

examined the effects of personality style in a sample of adolescents and found that traits such as self-criticalness and dependency were positively associated with level of depression. More specifically, the depressive style of self-criticalness was most strongly related to difficulties in the social domain (i.e., interpersonal functioning) for adolescents (Fichman et al., 1994). Consistent with this, Lewinsohn, Seeley, and Gotlib (1997) found that depressed adolescents also tended to be more self-conscious and presented with lower levels of self-esteem.

Harter and Whitesell (1996) found that those adolescents reporting depressive symptomatology also had perceived deficiencies in peer-salient domains (i.e., appearance, likability, athletic competence) and parent-salient domains (i.e., competence and adequacy in areas of school and behavior). They suggested that, among other things, reported depressive symptomatology in adolescents may stem from a poor self-concept and self-worth, as well as perceived deficits in peer and parental support (Harter & Whitesell, 1996). Similarly, a study of a sample of Chinese high school adolescents found that depressive symptomatology tended to be the highest among youths whose self-perceptions indicated that they were incompetent both academically and socially (Chan, 1997). del Barrio et al.'s (1997) study found a negative correlation between depression and a measure of extroversion, suggesting that introverted individuals are more prone to depression.

The study of adolescent depression continues to be of significant interest in the field of child and adolescent psychology. The literature provides considerable support for the occurrence of depressive disorders in the adolescent population, and also suggests that individuals presenting with these disorders typically suffer from

other comorbid conditions (i.e., anxiety and disruptive disorders) that place them at an increased risk for substance abuse, suicidal behavior, poor school performance, and psychosocial dysfunctions (Birmaher et al., 1996). Since one episode of a depressive disorder among youth represents a risk factor for further episodes (Kovacs & Devlin, 1998), and the recurrence of depressive disorders appears to be high in adolescents at 18.4% (Lewinsohn et al., 1993), this is an area that deserves continued study.

Depression and Learning Disabilities

The research on learning disabilities and depression is not only scant and methodologically flawed (i.e., small sample sizes, lack of comparison groups), but involves the study of younger children and early adolescents (Huntington & Bender, 1993). A major study by Stevenson & Romney (1984) estimated that 14% of a population of LD children were clinically depressed. The authors suggested, however, that this may be an underestimate, and that the actual rate may be higher since 46% of those approached declined to participate in the study. No significant effects of age or gender were identified (Stevenson & Romney, 1984). Hall and Haws (1989) examined the levels of depressive symptomatology in a sample of LD and non-LD 4th, 5th, and 6th graders and found that students identified as LD scored significantly higher on a self-report measure of depression (Children's Depression Inventory [CDI]) as well as a teacher behavior rating scale. Twenty-four percent of the LD children had scores equal to or greater than the cutoff score indicative of clinical depression, while only 4% of the non-LD sample scored at or above this score. Although no significant main effects were found for gender or age, depression

scores tended to decrease as grade level increased (Hall & Haws, 1989).

Rodriguez and Routh (1989), however, found that although a sample of LD students were rated higher by peers on a measure of depression, they did not score higher than a sample of non-LD peers on self-report measures of depression. Goldstein et al. (1985) studied the relationship between depression and academic achievement in four subsamples of LD children. They found that 61% of the total sample met the criteria for mild depression, while 26% of the sample met the cutoff score for severe depression on the CDI. A study by Heath and Wiener (1996) revealed that depression in a sample of learning disabled children existed only for those who also demonstrated lower self-perceived social acceptance. This was particularly true for females. Newcomer et al. (1995), however, did not find any significant differences on the self-report measures of depression in a sample of LD children when they were compared to their non-LD peers. However, the LD group were rated by their teachers as higher in depressive symptomatology than their peers. Gender effects were found, with more females self-reporting depression and more males rated higher on depression symptoms by their teachers (Newcomer et al., 1995). In another study, a large sample of LD children was found not to be significantly more depressed than non-handicapped students. However, younger females did show more significant levels of depressive symptomatology (Schloss et al., 1988).

Despite the lack of current research on older adolescents and high school students, overall, the available research on these populations suggests a positive relationship between learning disabilities and depression (Huntington & Bender, 1993). Maag

and Behrens (1989) found that 21% of a sample of LD and SED (seriously emotionally disturbed) adolescents reported severe depressive symptomatology. Although the SED group was included in this sample, the authors report no significant differences between the SED and LD groups in terms of prevalence or severity of depressive symptoms (Maag & Behrens, 1989). A study by Dalley et al. (1992) found that two subsample groups of LD adolescent students ("successful" and "unsuccessful") had significantly higher reported rates of depressive symptomatology (19.0% and 28.6% respectively) than a control group of non-learning disabled peers (7.7%). No gender effects were found.

In contrast to these significant findings, a study by Beer and Beer (1992) found that LD high school students in special education classes scored similarly to their "normal" peers on measures of depressive symptomatology, as well as other measures assessing self-concept and self-esteem. Similarly, Maag and Reid (1994), in a large scale study examining the differences between LD and non-LD groups of adolescents, found no significant differences between the two groups, determining that the prevalence rate was 10% for both. No differences in prevalence or severity were noted for either group, nor were gender differences determined (Maag & Reid, 1994). Maag, Behrens, and DiGangi (1992), however, did determine gender differences in depressive symptomatology of LD adolescents. Although LD females scored higher on a measure of depression than their non-handicapped peers, LD males scored lower than the non-handicapped group (Maag et al., 1992).

Results of these studies are mixed, indicating that the relationship between LD and depression may be moderated by other variables such as gender. It also seems

that the LD-depression relationship is influenced by who rates students' depression. While teachers (Hall & Haws, 1989; Newcomer et al., 1995) and peers (Rodriguez & Routh, 1989) may rate LD students as more depressed than nondisabled students, LD students do not always rate themselves as more depressed than their nondisabled peers (Beer & Beer, 1992; Maag & Reid, 1994; Newcomer et al., 1995; Rodriguez & Routh, 1989; Schloss et al., 1988).

Depression is an internalizing problem (Achenbach & Edelbrock, 1978) with inner-directed symptoms that are not always obvious to the external observer. For this reason, adolescents may be better able to accurately rate their own depressive symptoms than others. The discrepancy between self- and other-related depression in LD students, however, could indicate that symptoms that are obvious to others that are not obvious to the LD students themselves. These results highlight the importance of assessing both self- and other-rated depression in LD students. Research conducted by Moss, Prosser, Ibbotson, and Goldberg (1996) found that individuals with learning disabilities sometimes have difficulty self-reporting psychiatric symptoms. These authors suggest that a third party informant be included when possible.

Relationship of LD, Depression, and Intelligence

There exists some debate in the literature as to whether the relationship between LD and depression is correlational or causal in nature.

Because emotional disturbance is related to school performance, a cycle may be potentiated; LD children may perform poorly, become emotionally affected, and perform even more poorly; or conversely, initial emotional disturbance could lead

to poor academic performance (Rodriguez & Routh, 1989, p.302).

Yasutake and Bryan (1995), in a review of the literature, suggested that induced positive affect in students with LD facilitates their learning and performance in math, vocabulary, and new tasks. They proposed that for LD students, "continuous exposure to academic and social failure would contribute to their negative affective states, which could, in turn, result in additional cognitive problems, which ultimately could influence learning" (Yasutake & Bryan, 1995, p. 330). They suggested that the problems that LD students experience with academic failure "leave(s) them at risk for experiencing more negative affect than their nondisabled counterparts, and that negative affect may contribute to their continued failure" (Yasutake & Bryan, 1995, p. 330).

Although the literature seems to suggest that LD students are at an increased risk for depression, some authors feel that depressed individuals are at an increased risk for learning problems. A controversial study by Colbert et al. (1982) suggested that learning disabilities are actually a symptom of depression in children. Their study investigated the incidence of depression in children admitted to a psychiatric facility, with the hypotheses that many of these children had been identified by their teachers as having learning disabilities, when in fact, they were experiencing symptoms of depression. "The learning retardation is often a result of the lessened energy and attention available to the depressed child. Yet adults will more readily diagnose a learning disability than depression because the former seems easier to deal with and does not imply adult neglect....."(Colbert et al., 1982, p. 335).

Kovacs and Goldston's (1991) review of the literature suggested that school

performance is more consistently affected by depression than cognitive or intellectual difficulties. Livingston (1985) suggested that right-hemisphere brain dysfunctioning plays an important role in the occurrence of both learning disabilities, particularly nonverbal areas, and depression. Kaye (1994) offered support for this contention in his research on the role of depression in dysfunctional learning. His study led him to conclude that many children are often misdiagnosed with an attention deficit disorder, and that they are actually experiencing a depressive disorder which causes their learning difficulties (Kaye, 1994). Rourke et al. (1989) proposed that individuals with nonverbal learning disabilities are at an increased risk for adolescent and adult depression and suicide. Addressing the relationship between learning disability and childhood depression as it relates to brain dysfunction, Brumback and Staton (1983) even suggested that "right hemispheric cognitive dysfunctioning may share a common pathophysiology with childhood endogenous depressive illness, and therefore might be treatable with tricyclic antidepressant pharmocotherapy" (p. 269).

Some of the research attempts to address the relationship between levels of depressive symptomatology and brain dysfunctioning by examining IQ functioning, particularly Performance IQ functioning, through assessment. Although Goldstein et al.'s (1985) study found no correlation between overall IQ and depressive symptomatology in a sample of LD children, there was a significant negative correlation between depression and Performance IQ, as well as a significant positive correlation between Verbal IQ and depression. Brumback's (1985) study of a sample of children with school problems found that a subsample of depressed children (but not the nondepressed children) had a 15-point Wechsler Performance IQ deficit

(Verbal-Performance IQ discrepancy of 15 points). The authors cite this finding as evidence for right cerebral-hemisphere brain dysfunction (Brumback, 1985). Tsatsanis, Fuerst, and Rourke (1997) found that LD students who have internalizing disorders (i.e., depression) tended to have higher verbal IQs when assessed.

Although some of the research has identified a positive correlation between verbal functioning and depression, as well as performance IQ deficits in depressed LD students, results of research with non-LD adolescents are more varied. A study by Kovacs and Goldston (1991) found that depressed youth experienced slight declines in assessed verbal performance over a period of time (1991). A major study comparing groups of normal and gifted adolescents to those with mild to moderate mental retardation in special education programs (Manikam et al., 1995) found that intellectually higher functioning adolescents scored lower on measures of depression, suggesting a negative correlation between IQ and depression. Effects of type of classroom placement were not assessed. Brumback et al. (1980), Mokros, Poznanski, and Merrick (1989), and Stevenson and Romney (1984) found no correlation between cognitive ability (verbal or nonverbal) and level of depression. In contrast, Horan et al. (1997) found that adolescents, particularly females, diagnosed with Major Depression performed significantly below the normative standards when assessed on general verbal learning. Memory deficits were also significant for depressed female adolescents, but not males (Horan et al., 1997).

The research on the relationship between depression and intelligence has been conducted with a variety of child and adolescent subjects. The few studies done with LD children have found a positive relationship between verbal IQ and/or verbal

learning and depression. The above research using LD adolescents has also found a negative correlation between performance IQ and depressive symptoms.

Cohen (1985) states that "sad feelings that there is a discrepancy between what one 'is' and what one 'ought' to be" (p. 181) are characteristic of depressed adolescents. The intellectual ability-achievement discrepancy of the LD adolescent can be construed as a discrepancy between what one is and what one ought to be. Higher ability-achievement discrepancies may be associated with greater depressive symptomatology. A literature search found no studies that examined the relationship between magnitude of the ability-achievement discrepancy and depressive symptoms. The present study investigated this relationship, as well as the relationships between depressive symptomatology and verbal and performance IQs of LD adolescents.

Summary

A review of the current research literature on depression indicates that adolescents in general are at risk for depression (Birmaher et al., 1996; Fleming & Offord, 1990; Garrison et al., 1997; Kashani et al., 1994; Lewinsohn et al., 1993; McFarlane et al., 1994; Roberts et al., 1997; Workman & Beer, 1989). There have been few studies examining depressive symptoms in LD adolescents, and their results indicate LD adolescents are frequently perceived by teachers to be more depressed than their non-disabled peers but do not always rate themselves as more depressed (Newcomer et al., 1995). Thus, any study of depression in LD students should employ both self- and other-ratings of depression.

There should be further studies to add to the small number of investigations of depression and LD and to investigate the possibility that depressive symptomatology

in LD adolescents is related to other factors such as type of placement, intelligence, and magnitude of the ability-achievement discrepancy. There have been no studies examining the relationship of type of placement (regular classroom with resource room or self-contained class) and depression in LD adolescents. Studies of self-esteem and self-concept of LD students have not found differences in these variables relative to type of classroom placement (Forman, 1988; Rogers & Saklofske, 1985, as cited in Forman, 1988; Yauman, 1980, as cited in Forman, 1988). Investigation of depressive symptomatology in LD students in self-contained and resource room classes is needed.

Two studies of LD children (Goldstein et al., 1985; Tsatsanis et al., 1997) indicate that verbal IQs are positively associated with depressive symptoms. Depression has also been found to be negatively associated with performance IQ in LD children (Brumback, 1985). This relationship was examined in this study. No studies have looked at the relationship between the magnitude of the ability-achievement discrepancy and depression. Examination of these associations in LD adolescents is needed.

CHAPTER 4

Method

Problem Statement

While adolescent depression has received considerable attention in the psychological literature, there have been few studies of depressive symptoms in LD adolescents. The studies that have been done (e.g., Newcomer et al., 1995) have neglected to examine variables, such as classroom placement and IQ, that may be associated with depression in this population. Thus, this study represented an initial investigation of depressive symptoms in LD adolescents as they relate to type of classroom placement (regular classroom with resource room or self-contained classroom), verbal and performance IQ, and the ability-achievement discrepancy.

Purpose

This study investigated the effect of type of classroom placement on degree of depressive symptoms in LD adolescents assessed by self-rating scores on the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996) and guidance counselor rating scores on the depression subscale of the Devereux Behavior Rating Scale-School Form (DBRS-S; Naglieri, LeBuffe, & Pfeiffer, 1993). The study also examined the relationship between verbal and performance IQ, assessed by the Wechsler Intelligence Scale for Children-Third Edition (WISC-III, Wechsler 1991) and depressive symptoms. Finally, this study examined the relationship between depressive symptoms and the ability-achievement discrepancy when achievement was assessed by scores on the Wechsler Individual Achievement Test (WIAT; The Psychological Corporation, 1992), and ability was assessed by scores on the WISC-

III (Wechsler, 1991). These relationships were assessed using the design and methodology described below.

Hypotheses

HY1: LD students in self-contained classes will have significantly more depressive symptomatology than LD students in regular classrooms with resource room.

There have been no studies examining the relationship of type of placement and depression in LD adolescents. Thus, the rationale for this hypothesis is based on purely theoretical grounds. Cognitive theories of depression (Beck, 1976; Seligman, 1975) indicate that depression develops when individuals have negative self-perceptions and expect that their actions will not be effective in influencing their lives. It may be that LD students in self-contained classes compare themselves negatively to LD students who are in regular classrooms with resource room. Perhaps what Cohen (1985) calls the perceived "discrepancy between what one 'is' and what one 'ought' to be" (p. 181) that is associated with depressive symptoms in adolescents is more pronounced for LD adolescents placed out of the mainstream than for those in regular classrooms. If this is the case, they may have more depressive symptoms than LD students in regular classrooms.

HY 2: There will be a significant positive correlation between self- and guidance counselor-rated depression scores.

Since the BDI-II and the DBRS-S Depression Scale both assess depressive symptomatology, their scores should be significantly related. The literature indicates, however, that self- and other-ratings of depressive symptoms in LD adolescents are

not always in agreement (e.g., Beer & Beer, 1992; Maag & Reid, 1994; Newcomer et al., 1995). It is therefore possible that the correlation, while significant, will not be substantial.

HY3: There will be a significant positive correlation between depression scores and verbal IQ.

Research with LD children has found a positive relationship between depression and verbal IQ (Tsatsanis, Fuerst, & Rourke, 1997). This research needs to be extended to LD adolescents.

HY4: There will be a significant negative correlation between depression scores and performance IQ.

A study done with LD children (Goldstein et al., 1985) found a negative relationship between performance IQ and depression scores. This research needs to be extended to LD adolescents.

HY5: There will be a significant positive correlation between depression scores and ability-achievement discrepancy scores.

If, as Cohen (1985) states, adolescent depression is related to the difference between what is and what ought to be, then depressive symptoms should be directly proportional to the size of the ability-achievement discrepancy.

Hypotheses 1, 3, 4, and 5 were tested twice. The first analysis was done using self-rated depression scores. The second analysis was conducted with guidance counselor-rated depression scores.

Design

This study employed a 2-group design. Adolescent LD participants were either in a segregated or mainstream class setting. A power analysis (Cohen, 1992) indicated that 26 subjects per group was the minimum number needed to achieve an effect size of .80 for a t-test of independent groups at the $p<.05$ level of significance. The dependent variables were adolescent and guidance-counselor ratings of depression, verbal and performance IQs, and ability-achievement discrepancy scores. The relationship of verbal and performance IQs and ability-achievement discrepancy scores to depression scores were also assessed using a correlational design.

Participants

A naturalistic sample was used. Subjects were taken from an experimentally accessible population. The subjects utilized in this study were students from a regular, academic high school in New York City, located in Jamaica, Queens, NY. According to school statistics from 1998, the population of the school was comprised of predominately African-American students (86.3%). The remaining ethnicities included students from Hispanic backgrounds (8.4%), Caucasian backgrounds (1.4%), and Asian and other backgrounds (3.9%). Fifty-six percent of the students were male, and 44% of the students were female. The total number of students enrolled was 2280. Of this number, 5.6% (127) were enrolled in self-contained class settings, while 16.9% received resource room or related services. Sixty-six students were enrolled in resource room classes.

Subjects were included in this study based upon the following criteria:

a) They were within the age range of 13 years 0 months through 16 years 11

months. This range was considered to be representative of the period of "adolescence" and is appropriate for the administration of the measures.

b) They were enrolled in some form of special education services. Their placement was either in mainstream classes with resource room or self-contained ("special education") classes.

c) They were identified as "learning disabled" as defined by the New York State Department of Education (1998), which is in compliance with P. L. 105-17. This definition sets forth that a child is learning disabled if he or she has "a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoke or written, which manifests itself in an inability to listen, think, speak, write, spell, or to do mathematical calculations....A child who exhibits a discrepancy of 50 percent or more between expected achievement and actual achievement determined on an individual basis shall be deemed as having a learning disability" (p. 8).

Identification of learning disabilities was determined through statistical comparison of the Composite scores (actual achievement) on the Wechsler Individual Achievement Test (WIAT; The Psychological Corporation, 1992) and Full Scale IQ (ability, or expected achievement) as determined by the Wechsler Intelligence Scale for Children-Third Edition (WISC-III; Wechsler, 1991). This was done using Table C.8 in the WIAT manual, which reports the minimum differences between WISC-III Full Scale IQ scores and WIAT Standard Scores required for statistical significance using the "simple difference method". This difference is referred to as the "ability-achievement discrepancy score". Students identified as being "emotionally

disturbed" or as having other major handicapping conditions (i.e., "hearing impaired") were excluded from this study.

In children with severe conduct problems, 25% have a learning disability (Frick & O'Brien, 1994). To prevent possible confounding of results by including adolescents with comorbid conditions associated with severe conduct problems and disruptive behaviors, such as Conduct Disorder (CD) or Oppositional Defiant Disorder (ODD) (American Psychiatric Association, 1994), adolescents scoring above the "significant" range on the "Inappropriate Behaviors/ Feelings" subscale of the DBRS-S were not included in the sample. Since the DBRS-S items are based on the DSM-IV (American Psychiatric Association, 1994), and since the "Inappropriate Behaviors/Feelings" subscale covers problems related to impulse control and aggression, this procedure minimized possible inclusion of adolescents with CD and ODD.

Descriptive statistics presented in Table 1 are reported for the total sample (n=52) and the resource room (n=26) and self-contained (n=26) class samples. The sample included students from an African-American ethnic background only. This was not a criterion for inclusion in the study, but occurred because the overwhelming majority of students in the school (86.3%) were African-American. Therefore, ethnic background was not reported in Table 1 or included in data analysis. The mean score on the Hollingshead indicates that on average, the population was towards the lower end of the status structure. In terms of grade level and age, Table 1 shows that the average grade level of the sample population was within the 9th grade, and the average age was approximately 15 years old. The mean (Full Scale) IQ of the total

sample was 80.40 (SD=10.48), which falls within the lower end of the "low average" range of intellectual classifications as defined by the WISC-III.

Table 1

Subject Descriptive Characteristics by Groups

	Total Sample (n=52)		Self-Contained Class Sample (n=26)		Resource Room Class Sample (n=26)	
	M	SD	M	SD	M	SD
Age	15.17	1.62	15.37	.79	14.97	2.16
Hollingshead	25.23	12.97	26.77	12.31	23.69	13.66
Grade	9.54	.83	9.58	.90	9.50	.76
IQ	80.40	10.58	77.65	11.13	83.15	9.42
Ability-Achievement Discrepancy	19.00	7.09	19.23	7.09	18.77	7.22

Self-contained and resource room subjects did not differ in terms of age ($t(50)=-.88$, $p>.05$), Hollingshead score ($t(50)=-.85$, $p>.05$), grade ($t(50)=-.33$, $p>.05$), Full Scale IQ ($t(50)=1.92$, $p>.05$), or ability-achievement discrepancy ($t(50)=-.23$, $p>.05$).

Table 2 displays the number of male and female students in each of the subsamples, as well as for the total sample.

Table 2

Subjects Gender by Groups

Gender	Total Sample (n=52)	Self-Contained Class Sample (n=26)	Resource Room Class Sample (n=26)
Female	24	14	10
Male	28	12	16

A chi-square test indicated that there were no significant differences between the resource room and self-contained class samples in terms of gender ($\chi^2(1)=.31$, $p>.05$).

Instruments

Measures of Intelligence and Achievement

Wechsler Intelligence Scale for Children - Third Edition (WISC-III). The WISC-III (Wechsler, 1991) is an individually administered intelligence test designed to assess intellectual ability for children ages 6 years 0 months through 16 years 11 months. It is often used during psychoeducational evaluations. The WISC-III was standardized on a sample of 2200 children representative of the general population in terms of ethnicity and gender. Internal consistency has been demonstrated by split-half correlational methods (ranging from .69 to .95). The authors provide evidence for construct validation based upon factor analyses, as well as criterion related evidence (i.e., predictive ability of academic achievement).

Wechsler Individual Achievement Test (WIAT). The WIAT (The Psychological Corporation, 1992) is an individually-administered achievement test designed to measure the academic achievement of students aged 5 years 0 months through 19 years 11 months. The WIAT assesses achievement in the areas of reading, writing, spelling, and mathematics. The WIAT has been normed on a population sample of 4252 children purportedly balanced according to race, age, gender, and ethnicity based on U. S. census data. Reliability estimates are based on test-retest coefficients, and range from .77 to .96.

Measures of Depression

Beck Depression Inventory-II (BDI-II). The BDI-II (Beck, Steer, & Brown, 1996) is a revision of the original, amended Beck Depression Inventory (Beck, Rush, Shaw, & Emery, 1979). The BDI-II is a 21-item valid, standardized, objective self-report measure used to assess the severity of depressive symptoms in adults and adolescents, ages 13 and older, and was developed to correspond to the criteria of the Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (DSM-IV; American Psychiatric Association, 1994). Each item is rated on a 4-point scale ranging from 0 to 3. The respondent is asked to endorse one of the four statements in each item that best describes the way that he/she has been feeling during the past two weeks, including today. Possible scores range in increasing severity from 0 to 63. The measure was standardized on a clinical sample of 500 and a comparative normal group of college students. Internal consistency reliability data ranged from .92 to .93. Test-retest reliability (over the course of one week) was significant (r=.93). Various studies have established the Beck depression scales as valid measures of adolescent

depression (Carter & Dacey, 1996; Kauth & Zettle, 1990; Roberts, Lewinsohn, & Seeley, 1991) The BDI-II is being used to assess the severity of depressive symptomatology and not to diagnose clinical depression (Birmaher et al., 1996).

Devereux Behavior Rating Scale-School Form (DBRS-S). The DBRS-S (Naglieri, LeBuffe, & Pfeiffer, 1993) is a valid, standardized, objective behavioral measure of emotional functioning, and is completed by either a parent/guardian or teacher/other school personnel who is in a position to observe and rate a student's performance. Typically, the respondent is one who has sufficient familiarity with the child's or adolescent's behavior over the past four weeks. The measure includes 40 questions that require the rater to assess a student's target behavior based on a 5-point Likert scale. The DBRS-S consists of four subscales: "Interpersonal Problems", "Inappropriate Behaviors/Feelings", "Depression", and "Physical Symptoms/Fears". Raw scores on the subscales are transformed into standard scores (M=10, SD=1). Significantly elevated scores (standard score $\geq$ 13) on the "Inappropriate Behaviors/Feelings" subscale were used to exclude subjects who may have had comorbid disruptive disorders (i.e., CD and ODD). A standard score $\geq$ 13 (1 SD above the mean) is identified by the test authors as the cutoff score representative of clinical significance, and was determined based upon validity studies conducted with clinical populations. The "Depression" subscale, a valid measure of depressive symptoms, was utilized in the data analysis as the guidance counselor completed measure of depression in this study.

The DBRS-S was standardized on a population of 3,153 children and adolescents, ages 5 to 18, from both regular and special education classes. Test-retest reliability

ranged from .51 to .86, at 24 hour, 2-week, and 4-week intervals. Internal consistency reliability coefficients ranged from .90 to .96. Studies with the DBRS-S indicate that it is a valid measure of emotional and/or behavioral problems in child and adolescent populations (Gimpel & Nagle, 1996; Naglieri, Bardos, & LeBuffe, 1995; Naglieri & Gottling, 1995).

Possible Covariates

Identifying Information. Each student in this study was identified in terms of gender, age, and grade placement in school. Tables 4 (page 61) and 5 (page 62) present the correlations of each of these variables with depression measures.

Hollingshead Four Factor Index of Social Status. A questionnaire based on the Hollingshead Four Factor Index of Social Status (Hollingshead, 1975) was administered to the students in order to obtain the socioeconomic status (SES) of participants. SES is derived from information pertaining to the marital status, education, and occupation of the family unit. Scores range from 8 to 66, with higher scores indicative of higher levels of SES. Tables 4 (page 61) and 5 (page 62) present the correlation of SES with each of the depression measures.

Procedure

All records of special education students who had recent routine triennial reevaluations, or requested reviews, of their special education placements and services, as per New York State legal mandates, were examined to determine whether or not they met the criteria for inclusion in this study (see above). According to standard reevaluation practice, students were administered the Wechsler Intelligence Scales and the Wechsler Individual Achievement Test.

Also part of the routine evaluation of students was the administration of objective personality measures. The Beck Depression Inventory-II (Beck, Steer, & Brown, 1996) was administered to students. The Devereux Behavior Rating Scale (Naglieri, LeBuffe, & Pfeiffer, 1993) was administered to the students' guidance counselors. The "Depression Scale" of the DBRS-S was utilized in the analysis for the purposes of this study. (To control for comorbid conditions such as CD and ODD, students with significantly elevated scores ($\geq$ 13) on the "Inappropriate Behavior/Feelings" subscale were excluded from participation in this study.) Since depression is an internalizing disorder, it is typically assessed using self-report methods. The DBRS-S was included, however, in order to obtain a different perspective on students' level of emotional functioning. As stated in the literature review, LD adolescents sometimes have difficulty self-reporting psychiatric symptoms such as depression. Research by Maag, Rutherford, and Parks (1988) indicates that high school students' guidance counselors possess considerable knowledge of the characteristics of adolescent depression and are generally able to correctly identify important characteristics of adolescent depression. It should be noted here that the omission of parental reports of depressive symptomatology was two-fold. First, parental availability was somewhat limited in the proposed setting. Second, Larsson's (1992) review of the major literature on informant-respondent reliability suggests that parent and child agreement on reported depressive symptomatology is often low.

The presence of learning disabilities was determined through statistical comparison of the Composite scores on the WIAT (actual achievement) and Full Scale IQ as determined by the WISC-III (ability, or expected achievement). This was

done using Table C.8 in the WIAT manual that reports the minimum differences between WISC-III Full Scale IQ scores and WIAT Standard Scores required for statistical significance using the "simple difference method". If a significant discrepancy between the student's Full Scale IQ score (ability) and any of the subscale scores on the WIAT (achievement) was identified, the student met the criteria for being classified as LD based on this ability-achievement discrepancy.

The researcher obtained informed consent from the parent or guardian of the student and assent from the student for participation in the study for all students with a significant ability-achievement discrepancy. A parental consent form was sent home with the student, and it informed the parent of the purpose of this study and provided a description of the study. Students who returned a signed parental consent form but who did not sign an assent form were not included in this study. Of the 61 students approached to participate in this study, 52 (85%) returned signed consent and assent forms.

When consent and assent were obtained, the examiner assigned a code to the student's data and identifying information. This was done for confidentiality purposes, so that the student could not be identified by name. The data were then entered into a statistical program and analyzed.

Data Analyses

Descriptive statistics were calculated for all variables. Differences in depression scores according to classroom placement (HY1) were analyzed using a t-test for independent groups. Hypotheses 2, 3, 4, and 5 were tested using Pearson Product Moment correlations. Since students were not randomly assigned to classrooms,

correlations for each of these hypotheses were computed for each classroom type and the total sample. Analyses for Hypotheses 1, 3, 4, and 5 were conducted twice: once with self-rated depression scores and once with guidance counselor-rated depression scores.

Covariates were not utilized in the data analysis, since none of the identifying variables (school, age, gender, grade, socioeconomic status) were found to have a significant correlation with depression scores (see Table 4, page 61; and Table 5, page 62).

CHAPTER 5

Results

This chapter presents mean scores on the BDI-II and the DBRS-S and the correlations of possible covariates with the scores on these measures of depression. Results of statistical analyses to test the hypotheses are presented next along with the mean depression scores for students in self-contained and resource room classes.

Correlation of Possible Covariates with Depression Scores

Table 3 presents the mean scores for the total sample on the BDI-II and the DBRS-S.

Table 3

Depression Scores for Total Sample

Instrument	M	SD
BDI-II	14.88	10.89
DBRS-S	12.25	3.26

The mean score (M=14.88) for the BDI-II falls within the lower end of the "mild" range of severity (Beck, Steer, & Brown, 1996). This suggests that, on average, the sample endorsed items consistent with clinically significant levels of depressive symptoms. A visual inspection of the data showed that approximately 45% of the subjects endorsed items on the BDI-II consistent with mild or greater levels of depressive symptomatology. Included in this, 32% of the sample rated themselves as

being within the "moderate" to "severe" level of depressive symptoms as indicated by having scores of 20 or greater.

On the DBRS-S, the mean score for the total sample (M=12.25) is within the "borderline" range of severity, and approaching clinical significance. A score of 13 on this scale falls within the "significant" range of severity, and is suggestive of clinically significant levels of depressive symptomatology as observed by guidance counselors. Forty-three percent of the subjects were rated by their guidance counselors to be within this clinically significant range.

Scores on both tests of depression were correlated with variables identified in the Method section as possible covariates. Table 4 presents the correlation of variables identified as possible covariates with scores on the BDI-II. None of the possible covariates was found to be significantly correlated with depression, as assessed by the BDI-II.

Table 4

Correlations of Age, Gender, Grade, and SES with Depression (BDI-II)

Demographic Variable	r	p
Age	.1616	.253
Gender	.2675	.055
Grade	-.0365	.797
SES	-.1384	.328

Table 5 presents the correlation of variables identified as possible covariates with scores on the DBRS-S.

Table 5

Correlations of Age, Gender, Grade, and SES with Depression (DBRS-S)

Demographic Variable	r	p
Age	-.1235	.383
Gender	-.0359	.801
Grade	-.1527	.280
SES	-.0046	.974

Consistent with the findings of no significant relationship between the covariates and BDI-II scores, the results of the correlations presented in Table 5 do not indicate that any of the covariates are significantly related to depression as assessed by the DBRS-S. Age, gender, grade, and SES were not used as covariates in any of the analyses to test the hypotheses.

Tests of the Hypotheses

Hypothesis 1 stated that LD students in self-contained classes would have significantly more depressive symptomatology than LD students in regular classes with resource room. Table 6 presents the means of both measures used to assess the level of depression in both the resource room and self-contained class samples.

Table 6

Means and Standard Deviations of Depression Measures by Groups (Hypothesis 1)

Instrument	Self-Contained Class Sample (n=26)		Resource Room Class Sample (n=26)	
	M	SD	M	SD
BDI-II	15.15	10.81	14.62	11.17
DBRS-S	11.35	3.03	13.15	3.28

For the BDI-II, a t-test for independent samples showed that there were no significant differences between the means for the two groups of LD students ($t(50)=-.18$, $p=.86$). Hypothesis 1 is not confirmed for the student ratings on the BDI-II. Guidance counselor ratings on the DBRS-S differed significantly for the two groups ($t(50)=2.06$, $p=.044$). The direction of the results, however, was not as proposed in Hypothesis 1. Instead, the results indicated that guidance counselors rated LD students in regular classes with resource room as more depressed than LD students in self-contained classes.

Table 7 presents correlations between self- and guidance counselor-rated depression for the total sample and both the resource room and self-contained sample.

Table 7

Correlation of BDI-II and DBRS-S (Hypothesis 2)

	Total Sample (n=52)	Self-Contained Class Sample (n=26)	Resource Room Class Sample (n=26)
r	.18 (p=.19)	.13 (p=.52)	.26 (p=.21)

Pearson Product Moment correlations demonstrated no significant relationships between the measures of guidance counselor-rated depression as assessed by the DBRS-S and self-rated depression as assessed by the BDI-II. Hypothesis 2, which stated that there would be a significant correlation between self- and guidance counselor- depression ratings, was not confirmed.

Table 8 presents the correlations between verbal IQ and self- and guidance counselor-rated depression scores for the total sample and both the resource room and self-contained class samples.

Table 8

Correlation of Verbal IQ with Depression Scores (Hypothesis 3)

	Total Sample (n=52)		Self-Contained Class Sample (n=26)		Resource Room Class Sample (n=26)	
	BDI-II	DBRS-S	BDI-II	DBRS-S	BDI-II	DBRS-S
VIQ	-.14	.18	-.14	-.01	-.15	-.12
	(p-.31)	(p=.19)	(p=.50)	(p=.97)	(p=.47)	(p=.55)

Pearson Product Moment correlations indicated no significant relationships between verbal IQ scores and either of the depression measures for the total sample and the two class groups. Hypothesis 3, that there would be a positive correlation between verbal IQ and depression measures, was not confirmed.

Table 9 presents the results of the Pearson Product Moment correlations used to test Hypothesis 4, which purported that there would be a negative correlation between performance IQ and depression measures.

Table 9

Correlation of Performance IQ with Depression Scores (Hypothesis 4)

	Total Sample (n=52)		Self-Contained Class Sample (n=26)		Resource Room Class Sample (n=26)	
	BDI-II	DBRS-S	BDI-II	DBRS-S	BDI-II	DBRS-S
PIQ	-.03 (p=.81)	.15 (p=.28)	-.12 (p=.55)	-.08 (p=.70)	-.17 (p=.42)	-.02 (p=.94)

The results show that no significant correlations were found between these measures for both the total sample and the two subsamples. Hypothesis 4, therefore, was not confirmed.

Table 10 presents the Pearson Product Moment correlations between the ability-achievement discrepancy score (i.e., the measure assessing the degree of one's learning disability) and self- and guidance counselor-rated depression scores for total sample and both the resource room and self-contained class samples.

Table 10

Correlation of Ability-Achievement Discrepancy with Depression Scores (Hypothesis 5)

	Total Sample (n=52)		Self-Contained Class Sample (n=26)		Resource Room Class Sample (n=26)	
	BDI-II	DBRS-S	BDI-II	DBRS-S	BDI-II	DBRS-S
Ability-Achievement Discrepancy	.14 (p=.34)	-.12 (p=.39)	.06 (p=.75)	-.06 (p=.77)	.20 (p=.32)	-.17 (p=.41)

Pearson Product Moment correlations indicate that there was no relationship between the degree of the learning disability, as assessed by the ability-achievement discrepancy score and the level of depression for either measure (BDI-II or DBRS-S) for the total sample or either subsample. Hypothesis 5 was not confirmed.

Post hoc analyses were performed to assess whether or not a relationship existed between the magnitude of depressive symptoms and the ability-achievement discrepancy score. Students were assigned to either a "high depressed" or "low depressed" group for both the BDI-II and DBRS-S. On the BDI-II, students who attained scores of 20 or greater ("moderate" to "severe" range) were categorized as "high depressed" (less than 20 was "low depressed"). On the DBRS-S, students who

were rated by their guidance counselors with scores of 13 or greater (clinically significant) were categorized as "high depressed" (less than 13 was "low depressed"). T-tests for independent samples showed no significant differences between the means of ability-achievement discrepancy scores for students identified as "high depressed" or "low depressed" on the BDI-II ($t(50)=1.13$, $p=.264$), or on the DBRS-S ($t(50)=-.74$, $p=.46$).

CHAPTER 6

Discussion

This chapter presents a summary of the results of this study and discusses possible explanations for the findings. Suggestions to improve this study and proposals for future research will also be presented.

Summary of Results

This study of African-American LD adolescents in an urban school setting was done primarily to determine if there was a relationship between LD adolescent depressive symptomatology and IQ, ability-achievement discrepancy, and type of classroom placement. Based on Cohen's (1985) formulation that depression occurs when adolescents perceive a discrepancy between what they are and what they ought to be, it was hypothesized that participants in self-contained classrooms would have higher depression scores than participants in regular classrooms with resource room. This hypothesis was not confirmed using self-rated depression scores. Guidance counselor ratings of student depression significantly differentiated between groups, but in the opposite direction of what was predicted. The other four hypotheses in this study were also not confirmed. There was no significant correlation between self- and guidance counselor-rated depressive symptoms (Hypothesis 2). There was no significant relationship found between IQ scores and depression scores (Hypotheses 3 and 4). Finally, there was no significant relationship identified between depression scores and the degree of a student's learning disability, as assessed by the ability-achievement discrepancy (Hypothesis 5).

Discussion of Findings

Although none of the hypotheses were confirmed, some interesting findings emerged. Examination of the depression scores indicates that a large percentage of an urban sample of learning disabled adolescents rated themselves, or were rated by their guidance counselors, as presenting with clinically significant levels of depressive symptomatology. Interestingly, the results of this study (45% of the total sample scored within mild range of depressive symptoms on the BDI-II, including 32% of students who met the criteria for moderate to severe levels of depressive symptomatology) were similar to the results reported by Rodriguez & Routh (1989) (61% of total sample met criteria for mild depression, and 26% met cutoff score for severe depression). Nearly one-third of all LD students in the present study endorsed items suggesting significant levels of depressive symptoms. Just as significant is the finding that guidance counselors rated approximately 43% of the sample as presenting with items consistent with depressive symptomatology.

Even though both students and guidance counselors indicated relatively higher percentages of depression in the sample, Hypotheses 2, that there would be a significant correlation between self- and guidance counselor rated depression scores, was not confirmed. One reason for this is that depressive symptoms were assessed using different instruments for students and guidance counselors. These instruments had different items from each other and this would have lowered the possible correlation between them. Thus far, there have been no validity studies correlating BDI-II and DBRS-S depression scores. Another possible explanation for the lack of relationship between LD students' and guidance counselors' depression ratings is that

some students who were rated as more depressed by guidance counselors rated themselves as less depressed and vice versa. This is consistent with previous literature, which states that self- and other-ratings of depressive symptoms in LD adolescents are not always in agreement (e.g., Beer & Beer, 1992; Maag & Reid, 1994; Newcomer et al., 1995).

Hypotheses 1, that students in self-contained classes would have significantly more depressive symptomatology than LD students in regular classroom with resource room was not confirmed. Although no significant differences between the two groups were found on self-ratings of depressive symptomatology as assessed by the BDI-II, the results of guidance counselor-rated levels of depressive symptomatology, as assessed by the DBRS-S (Naglieri et al., 1993), for the two groups was significant in the opposite direction than predicted. Students in regular classes with resource room were assessed by guidance counselors as more depressed than students in self-contained classes. Since students in resource room programs are also in regular classes with non-LD students, perhaps their comparison group of peers is different than the comparison group for students in self-contained classes. Comparing oneself to regular education students could contribute to a perceived negative sense of self, which is related to depressive symptoms. Self-contained students are in classes with similar students, and, therefore, do not have a higher functioning comparison group in classes with them. Perhaps because self-contained students are in classes with students of similar (low) levels of functioning, then, in accordance with Cohen's (1985) formulations, they are not as depressed because they do not perceive the discrepancy between what they are and what they ought to be as

keenly as LD students who have a more normal functioning comparison group.

Or, perhaps students in resource room are perceived by their guidance counselors to be struggling more academically, and experiencing considerable distress and anxiety (related to depression) because of their learning difficulties, and are thus perceived as more depressed because their performance is not on par with their regular education peers. Guidance counselors are aware that the academic requirements for resource room students are more demanding than those for self-contained students. Self-contained students may be perceived as having an easier time, academically, and not subject to academic pressures, which can result in depressive symptoms. If we examine the results in terms of sociobehavioral models (i.e., Seligman, 1975; Kazdin, 1990) that focus on the development of depression as a result of difficulties experienced when interacting with the environment, then perhaps resource room students are perceived by their counselors as being ineffective in their behaviors in school, and are thus not being positively reinforced, which leads to depressive symptomatology.

Although previous research has identified a positive relationship between depression and verbal IQ (Tsatsanis, Fuerst, & Rourke, 1997) and a negative relationship between performance IQ and depression scores (Goldstein et al., 1985) for normal samples, the findings of this study do not indicate any relationship when study of depression and IQ was extended to this sample of LD adolescents. Perhaps variables relating to the attributes of the subjects' learning disability (i.e., inconsistencies in cognitive processing) had a mediating effect on results. Students who are classified as learning disabled are not identified in terms of their specific type

of disability. LD students have a wide range of problems, e.g., aural processing deficits, visual motor deficits, language delays, memory problems, and spatial reasoning deficits. Perhaps the development of depressive symptoms is related to the type of disability or area of dysfunction in the brain. Using verbal and performance IQs in isolation may not be sufficient to detect this relationship, suggesting that other measures assessing cognitive abilities should be used.

The possible reasons for the lack of significant findings for Hypotheses 5, that there would be a significant relationship between the degree of a students' learning disability as assessed by the ability-achievement discrepancy score and level of depression, are unclear. Although the argument that students' levels of depression would be related to their degree of disability seems plausible (e.g., that the more disabled students would be more depressed about their learning problems), one cannot account for the effects of the many possible extraneous variables. One possible explanation for the absence of significant results is that the ability-achievement discrepancy score should not be construed as one's level or degree of learning disability. This is further supported by the current literature that criticizes the use of this criteria to identify and label students as being methodologically flawed. Perhaps Ross (1995) is correct in stating that many students are mislabeled as LD due to inadequate and unclear guidelines. Although the ability-achievement discrepancy score is the current method used to classify students in New York State, it may not be the most advisable method to use. Ross (1995) has suggested that regression procedures be used to identify LD students.

Suggested Improvements

Since the results of this study were not as expected, suggestions for improving the study will be made. First and foremost, determination of a learning disability using the ability-achievement discrepancy, performed in accordance with current New York State guidelines, continues to be an area of controversy in terms of its methodological soundness. Whether or not the New York State definitions truly represent learning disabilities is certainly questioned. Developing and using alternative methods to identify and diagnose LD are suggested.

Since the sample consisted of only African-American subjects from lower SES, it is important to note that the setting in which this study was conducted, as well as other context variables, may have influenced the results. The study would be improved if extended to other populations of students from different ethnic backgrounds with different levels of SES. Perhaps different students from higher SES, who are purported to value achievement more, might have presented with more or less depressive symptoms. Academic apathy may have played a role in results. Use of a control group of non-LD subjects was not possible in the present study, but would have addressed whether or not depressive symptoms were higher or the same for LD and non-LD subjects. Perhaps, all students in this school are presenting with high levels of depressive symptomatology, regardless of their class placement. A control group of non-LD students would have allowed assessment of the prevalence rate of depressive symptoms in the entire school, allowing for a more definitive conclusion about whether or not depressive symptoms can be attributed to LD, or to the environment itself.

Incorporating the assessment of other variables also seems indicated. Assessing levels of anxiety, which many students experience, may have identified whether or not a comorbid anxious condition was present which may have affected results. A more in-depth clinical interview, which would have assessed, for example, whether or not the student had experienced any recent major life events would improve the study's validity. Consistent with socioenvironmental models of depression (Kazdin, 1990), major life events and stressors are a common source of the development of depressive symptoms. Examining these variables may offer additional information during the interpretation of results. The use of additional measures of emotional functioning (i.e., self-concept measures) might provide added results that would explain findings. If issues relating to self-esteem are present in the adolescent, this might further interfere with learning problems and/or experienced levels of depressive symptoms. As with any research, the effects of other unobserved and unknown variables may have had an affect on this study's findings.

Although depression is an internalizing disorder, previous research suggests that self-report measures used in isolation are not sufficient to assess clinical depression. Moss et al. (1996) suggest that for individuals with learning problems, third-party ratings are necessary. Along these lines, although guidance counselors can assess many areas of their students' functioning, perhaps they are not close enough to the adolescent to assess whether or not an adolescent is experiencing depression. Increasing the number of outside raters is suggested, as one individual may not have a complete picture of the student. Administering the DBRS-S to all of the students' teachers would have allowed for the evaluation of inter-rater reliability and thus,

might improve the reliability of findings. Peers are also important individuals in the lives of children and adolescents. Use of peer rating scales during assessment would provide additional, important information about a student.

This study incorporated a dimensional approach to assessing and understanding depression. Perhaps also introducing a categorical approach in addition to the objective depression measures would improve this study's outcomes. In terms of testing, although the measures utilized in this study are valid and reliable, it is suggested that additional means of assessing depressive symptomatology might improve the reliability of findings. Interview measures, such as the Diagnostic Interview for Children and Adolescents (DICA; Reich, Leacock, & Shanfeld, 1995), to assess DSM-IV (1994) symptoms and make a subsequent diagnoses, would improve the study's design and the reliability of results. Incorporating the DICA would change the design of the study to include groups of depressed and non-depressed resource room and self-contained students, and then allow for determining whether or not depressive symptoms were related to IQ functioning or ability-achievement discrepancy scores.

Finally, this study attempted to control for behavioral problems by utilizing the Inappropriate Behaviors/Feelings subscale of the DBRS-S, which assessed DSM-IV CD and ODD symptoms. This subscale, however, only assesses the potential for two disruptive and inappropriate behaviors that occur in school. Incorporating a diagnostic interview measure such as the DICA would allow for assessment of Attention Deficit Hyperactivity Disorder (ADHD; American Psychiatric Association, 1994). ADHD is a comorbid condition that occurs with some frequency in LD

students (Frick & O'Brien, 1994). Controlling for this diagnosis was also not possible in this research because of the lack of parental participation in this study. According to the DSM-IV (American Psychiatric Association, 1994), ADHD symptoms must occur in multiple settings (i.e., school and home) in order to be diagnosed.

Implications and Future Research

One important issue for any study of LD adolescents is the absence of a universally accepted operational definition of learning disabilities. Although the identification of learning disabilities in this study was conducted using current New York State guidelines, the idea that the ability-achievement discrepancy is a flawless measure used to identify the existence of a learning disability is questioned. There is a need to create a uniform routinely used operational definition of learning disabilities.

Despite the overall absence of significant findings in this research, another implication derived from this study is the apparent prevalence of depressive symptoms in the LD adolescent, and the need to address this issue routinely in the educational setting. Many school psychologists do not specifically assess depressive symptomatology in students being evaluated for learning problems unless it is identified as a reason for referral. Results of this study, and previous research, provide justification to incorporate measures of depression as part of the customary psychoeducational assessment battery. Students who are experiencing problems learning in school will almost always encounter emotional difficulties, as well. Or, as Colbert et al. (1982) propose, learning disabilities may actually be a symptom of

depression. Future research should focus on identifying the appropriate measures and techniques necessary to identify students experiencing depressive symptoms.

Finally, the relationship between cognitive dysfunctioning as evidence of learning problems and the degree of depressive symptoms is an important area of study, and needs to be more closely examined. Beck's (1967) cognitive theory of depression posits that individuals possess an existing set of schemata that they use to filter and interpret their experiences. Depressed individuals are thought to have a predilection for negative cognitions that then affect their perceptions and judgments about events and their experiences. Beck (1967, 1976) also proposes that depressed individuals have a tendency towards making cognitive distortions that represent systematic errors in reasoning when presented with new or stressful situations. When students are in the classroom in school, as information is being presented to them, they must use their perception and reasoning to learn. If students are depressed in a potentially stressful environment using negative schemata and engaging in distortions or logical errors when attempting to cognitively process new information, then it would stand to reason that their ability to learn new information would also be affected. This newly acquired information would be distorted from its original form. As this cycle continues, a child would appear to be not learning, or would be deemed to have learning difficulties or disabilities.

Also, a child who has learning problems resulting from neurological dysfunctioning or brain trauma is thought to have an area of the brain that is unable to effectively process information. Along the same lines, theories of depression that emphasize the role of biological or brain activity posit that some mechanism within

the brain becomes faulty, or imbalanced, and thus leads to depression. This assumption is further supported by currently accepted practices in psychological therapy, which tend to incorporate a medically oriented treatment approach (i.e., psychotropic medication) to depression. Neurological tests should be incorporated in future studies of the relationship between learning disabilities and depression.

As school psychologists, we tend not to be preventive in our roles, but are instead responsive. When a child is referred for academic, psychological, or social difficulties, we tend not to look for etiology or underlying causes, but attempt to identify and treat the problems as they are occurring. By this time, whatever problem(s) that child is experiencing in his/her life has probably been occurring for some time. It is then difficult to ascertain which came first - the learning disability or the emotional problems. Whichever the initial diagnosis, a cycle is potentiated where emotional difficulties will then almost always further impede the learning process, and vice versa. Treatment may then become more difficult. In addition, we are limited in the methods that we have to identify psychoeducational issues, and those techniques which we have tend to be somewhat limited in their breadth. School psychologists need to incorporate a multi-faceted analysis of biological, psychological, and socio-cultural factors that would contribute to a student's academic and emotional profile. Perhaps this should occur early in a child's academic career prior to any difficulties in school. We also need to recognize that cognitive capacity is mediated by affective factors, and vice versa. This research is evidence for the need for future studies on the role of cognitive and emotional factors in the development of both learning problems and depression.

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October 12, 1999

Dear Parent,

As part of my doctoral dissertation in Educational Psychology at the Graduate School and University Center of the City University of New York, I am investigating the extent to which adolescents with learning problems receiving specialized educational services experience certain levels of emotional distress. Primarily, my experience has led me to believe that many students who have difficulties learning also experience symptoms typically associated with depression. I ask that after your child's evaluation is complete, that you allow the results of their assessment to be used in this research study. As always, strict confidentiality will be adhered to, and your child will not be identified in any way, as numerical codes will be used for identification purposes. The outcomes of the research study will be available to you and reviewed with you upon request. The information derived for the research purposes will not be used to identify any child, make changes in their program or placement, or to initiate, modify, or terminate services. The data derived from these tests will simply be presented in statistical, summary format. Although your child is being evaluated as part of a routine assessment, participation in the research study is strictly voluntary. However, your consent to use your child's results is greatly appreciated. You have the right to withdraw your consent at any time with no consequences. I thank you in advance for your anticipated cooperation with this study, as I believe that the information derived from it will be helpful in assisting our students, and the special education population as a whole. If you have any questions, please contact me at (718) 528-2920 (Ext. 312), or my advisor, Dr. Georgiana Tryon, at (212) 817-8293. If you have questions about your rights as a participant in this study, you can contact Hilry Fisher, Sponsored Research, Graduate School/City University of New York (212) 817-7525. Thank you.

Sincerely,

Karen A. Howard, M. S.
SBST School Psychologist
August Martin High School

I give my consent for my child's test results to be used in the proposed study for the aforementioned purposes. I understand that participation in this study is strictly voluntary, that my child will not be identified, and that no changes in their placement or services will be made as a result of their participation in this study. I understand that I have the right to withdraw my consent at any time.

Parent Signature

Date

9/27/99 9/26/00

I, _____, give my permission for Ms. Karen Howard to use my scores from this evaluation in her research study. I understand that no changes in my school program will be made as a result of the testing. I also understand that my consent is voluntary, and that I can withdraw my consent at any time.

_____ _____

Student's Signature Date

Student Questionnaire (Interview)

Name: _____
Parent's Name: _____

1. Child's ethnicity: ____ White/Caucasian ____ Hispanic
   ____ African-American ____ Other

2. Child lives with: ____ Married parents ____ Single parent
   ____Widowed parent ____Legal guardian/Adoptive parent(s)
   ____ Grandparent(s) ____Foster parent ____Other

3. Family receives public assistance: ____ Yes ____ No

4. Number of adults in household: _____

5. Number of adults presently employed: _____

6. Number of adults in household currently retired: _____ (N/A _____)

7. Highest level of school completed by adults in household (also indicate the Individual who has completed this level):

	(Name)
_____ less than 7th grade	_____
_____ junior high school	_____
_____ some high school (10th or 11th grade)	_____
_____ high school graduate	_____
_____ some college or specialized training	_____
_____ college or university graduate	_____
_____ graduate degree	_____

8. Occupations of household adults:

(Job)	(Name)
_____	_____
_____	_____
_____	_____
_____	_____

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