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What is This?
Adolescents with Learning Disabilities at Risk? Emotional Well-Being, Depression, Suicide

Deborah D. Huntington and William N. Bender

As recently as 5 years ago, very little information on the emotional well-being of adolescents with learning disabilities (LD) was available. However, a great deal of research has been conducted recently and some of the implications are unnerving. Research on self-concept, attributions, anxiety, depression, and suicide among adolescents with LD is examined for the purpose of detecting consistency of indicators concerning these emotional and developmental variables. The research indicates that the emotional development of many adolescents with LD is not notably positive, and these students appear to be at increased risk for severe depression and suicide. The discussion highlights methodological pitfalls and developmental issues. Practical implications are suggested.

There is considerable empirical evidence that children with LD differ from normally achieving children in terms of behavioral and personality variables, including self-concept, locus of control, and temperament (Bender, 1985, 1986; Bursuck, 1989; Kistner, Osborne, & LaVerrier, 1988; McKinney & Feagans, 1983; Palmer, Drummond, Tollison, & Zinkgraf, 1982; Winne, Woodlands, & Wong, 1982). However, even as recently as Bender’s review in 1987, very little data were available on these variables among adolescents with LD. Since then, research has suggested that some of these deficits are also exhibited by adolescents with learning disabilities (Dollinger, Horn, & Boarini, 1988; Hayes & Sloat, 1988; Heavey, Adelman, Nelson, & Smith, 1989).

Furthermore, there is some tentative evidence of more serious emotional and personality problems among adolescents with learning disabilities. While deficits in self-concept may negatively affect school achievement and social/emotional relationships, there is no evidence that this deficit would be life-threatening in any way. However, evidence indicating a higher risk for suicide would certainly be of interest, because of the life-threatening nature of this problem. Recent evidence has suggested that adolescents with learning disabilities demonstrate higher anxiety levels, more frequent and more serious bouts of depression, and higher rates of suicide than adolescents without disabilities (Dollinger et al., 1988; Hayes & Sloat, 1988; Maag & Behrens, 1989; Ritter, 1989). Studies in these areas are still fairly rare, and no evidence has related deficits in self-concept and/or locus of control to these problems more recently studied, and potentially more serious, emotional problems. However, it would seem reasonable to explore this potential connection further.

The purpose of this article is to present the available information on the emotional well-being of adolescents with learning disabilities in five different areas: self-concept, attribution, anxiety, depression, and suicide. Obviously, this variable selection process was somewhat arbitrary—we could have chosen other variables, such as behavior problems or social relationships, for inclusion here. However, some limitations were necessary, and we selected these five variables for review because various researchers studying depression and suicide among nondisabled populations have suggested that relationships may exist among them (Hayes & Sloat, 1990; Peck, 1985).

Every data-based research study that measured these five variables in adolescent populations with learning disabilities is included in this review. These studies were obtained from a computerized search of the literature from the last 9 years, as well as a hand search of references in each article obtained on the computerized search. This search technique resulted in identification of 36 empirically based articles; of those, 31 involved specific comparisons of adolescents with learning disabilities to nondisabled adolescents on the five variables of interest. We also reviewed a number of studies re-
lated to these variables in younger children.

Self-Concept

Studies of the self-concept of adolescents with LD yielded inconsistent results during the first decade of research (Copeland & Weissbrad, 1983; Omizo & Amerikaner, 1985; Silverman & Zigmond, 1983; Tollefson et al., 1982). Some studies have demonstrated differences on certain self-concept measures (Omizo & Amerikaner, 1985)—a result that parallels the earlier research on children with learning disabilities—while others did not show such differences (Silverman & Zigmond, 1983; Tollefson et al., 1982).

This confusion began to clear somewhat when a more refined understanding of self-concept was developed and explored. Global self-concept, which was the typical measure used in the early research, refers to the general view one has of oneself; academic self-concept refers to one’s perception of himself or herself as a student (Chapman, 1988). When researchers began to compare adolescents with learning disabilities to nondisabled adolescents on academic self-concept, serious deficits in the former were demonstrated fairly consistently (Chapman, 1988; Hiebert, Wong, & Hunter, 1982; Krutilla & Benson, 1990; Renick, 1987). For example, Chapman investigated the academic self-concept of adolescents with learning disabilities, as well as information on the correlates of their deficit that may affect the adolescents’ overall emotional well-being. Regression studies that specify complex, multiple-variable relationships would be particularly useful here, as a first step.

Attributions of Adolescents with LD

Another area of concern is attribution of control over one’s fate (Bender, 1987). Individuals who attribute success or failure at a certain task to their own skills, ability, or behavior are said to have an internal attribution or an internal locus of control (Gregory, Shana- han, & Walberg, 1986). In contrast, external attribution or external locus of control is demonstrated when individuals attribute success or failure at tasks to factors outside of their influence, such as luck, fate, or the behavior of others (Hoy, 1986). Furthermore, research on attribution uses two basic methods of investigation, dispositional and situational (Cooley & Ayers, 1988).

In a dispositional measure of attribution, a student is asked a series of questions concerning attributions in a number of hypothetical situations. In a situational measure, the student is involved in one or more actual achievement situations, such as a brief spelling task or a series of math problems. Before and/or after the task the student is questioned about his or her attributions specific to that task.

The majority of studies on the attribution of adolescents with LD have found attributional differences between those students and normally achieving students (Aponik & Dembo, 1983; Gardner, Warren, & Gardner, 1977; Hallahan, Gajar, Cohen, & Tarver, 1978; Jacobsen, Lowery, & DuCette, 1986; Kistner et al., 1988; Tollefson et al., 1982). However, one study failed to demonstrate differences between these groups (Heavey et al., 1989).

Jacobsen et al. (1986) designed a dispositional measure to compare the attribution patterns of 37 students with learning disabilities and 67 nondisabled peers. These students were all in the seventh or eighth grade and had similar racial and socioeconomic backgrounds. Interview questions focused on attributions for hypothetical success/failure situations. Normally achieving adolescents followed the expected pattern of attributing success more internally and failure more externally. However, adolescents with learning disabilities attributed success more internally in terms of effort and attributed failure more internally in terms of lack of ability. Upon examining these findings, Jacobsen and her colleagues concluded that the attributional pattern of adolescents with LD indicates that they are not benefiting from the expected positive self-esteem associated with success that others experience.

Kistner et al. (1988) utilized dispositional measures in a longitudinal study to examine the relation of achievement attributes to academic progress and to detect developmental patterns of attributional styles. Thirty-four students with LD in Grades 3 through 8 were administered a modification of the Effort–Ability–External Scale used by Nicholls (1979) and Pearl (1982), as well as the Intellectual Achievement Responsibility Scale (Crandall, Katlovsky, & Crandall, 1965). Academic progress was indexed by changes in achievement scores over a 2-year span and by teachers’ ratings of students’ success and classroom behavior. Results indicated that students with LD who attributed failure to controllable causes made
the greatest academic gains and were rated by their teachers as exhibiting the most appropriate classroom behavior. This suggests that negative attribution problems may be correlated with more serious problems among children and young adolescents with LD.

In conclusion, the majority of studies have found significant attributional differences between adolescents with learning disabilities and nondisabled adolescents. Furthermore, all of the studies that used either multiple measures or a combination of situational and dispositional measures identified attributional differences between these groups (Aponik & Dembo, 1983; Jacobsen et al., 1977; Jacobsen et al., 1986; Kistner et al., 1988; Tollefson et al., 1982). These results suggest that the assessment of attribution is facilitated by the use of multiple measures involving direct situational measures immediately following the completion of a task, as well as dispositional measures. Researchers should continue to go beyond the earlier comparisons on the internal/external dichotomy on dispositional measures and examine internal attributes for specific success/failure experiences, to identify the negative internal attributions and extend the search for correlates of attribution.

Still, the research demonstrates that adolescents with learning disabilities attribute both success and failure more internally than comparison groups (Aponik & Dembo, 1983; Jacobsen et al., 1986; Tollefson et al., 1982). Given the difficulty of many secondary school tasks, these internal attributions for failure at difficult tasks among students with LD could lead these students to go beyond the earlier comparisons on the internal/external dichotomy on dispositional measures and examine internal attributes for specific success/failure experiences, to identify the negative internal attributions and extend the search for correlates of attribution.

Anxiety

Adolescents with LD appear to differ from nondisabled peers in terms of the level of anxiety they feel (Dollinger et al., 1988; Epstein, Bursuck, & Cullinan, 1985; Epstein, Cullinan, & Lloyd, 1986; Margalit & Raviv, 1984; Margalit & Shulman, 1986; Margalit & Zak, 1984; Paget & Reynolds, 1984; Ritter, 1989). For definitional purposes, two basic types of anxiety can be distinguished: *state anxiety* is an emotional reaction experienced in a specific self-threatening situation, whereas *trait anxiety* is a relatively stable personality characteristic (Wolfe et al., 1987). High levels of state anxiety are a part of the adaptation process. However, trait anxiety represents a general and pervasive fear and may be conceived as one indicator of maladjustment.

Margalit and Shulman (1986) used a dispositional self-report to examine anxiety in 40 boys in the sixth and seventh grades (ages 12 through 14). Twenty of the students were attending a special school for students with learning disabilities; the other 20, a non-LD comparison group, attended a school in the same geographic area. The State–Trait Anxiety Inventory (Spilberger, Gorsuch, & Lushene, 1970), as adapted by Teichman and Melnick (1977), was individually administered to each student. Students with LD were found to have significantly higher levels of trait anxiety than nondisabled students.

Using a different methodology, Dollinger et al. (1988) investigated the association between the sleep problems and worrying of high school students with LD. Forty-one students (28 males, 13 females) volunteered to participate in this study. Students ranged in age from 14 to 20. The researchers used Form B of the Louisville Fear Survey for Children (Miller, Barrett, Hampe, & Noble, 1972), a measure of specific worries, and the Missouri Children's Behavior Checklist (Sines, Pauker, Sines, & Owen, 1969), a self-report of sleep problems. Parents also completed the parent version of the Missouri Children's Behavior Checklist. Results indicated that the anxiety of adolescents with LD was positively correlated to sleeping problems. Disturbed sleepers in this study were found to be concerned about their competence, particularly about appearing incompetent in public. Specifically, sleep problems seemed to relate to anxiety about making mistakes, being teased, getting poor grades, and being criticized.

Margalit and Raviv (1984) investigated the prevalence of minor somatic complaints of children and adolescents with LD and mild disabilities, and of normally achieving students. Minor somatic complaints were defined as the communication of pains and fatigue without a demonstrated organic cause. Subjects consisted of 130 students with LD, 59 normally achieving students, and 69 students with mild intellectual impairments. The two disabled groups attended a special school. All students attended Grades 1 through 7 and were assessed in the context of individual interviews with their teachers. Teachers were given a list of complaints and asked to list the students who were complaining of these problems. A 3-point Likert scale on the frequency of complaints was used. The students with LD had a significantly higher proportion of complaints than the other groups.

Gregg, Hoy, King, Moreland, and Jagota (1992) demonstrated that college-age students with learning disabilities manifested anxiety at levels that were notably high. Forty-two adolescents with learning disabilities in either a university undergraduate program or a rehabilitation setting participated. Each of these students was assessed using the Minnesota Multiphasic Personality Inventory–2 (Butcher, Dahlstrom, Graham, Tellegen, & Karmmer, 1989). When compared to the norm scores for that instrument, the scores for the adolescents with learning disabilities indicated high levels of anxiety, though the average T scores (58.81 and 59.23, respectively) were not in the critical range indicative of a need for counseling or further screening.

In summary, current research suggests that adolescents with LD experience higher levels of trait anxiety than their normally achieving peers (Dol-
linger et al., 1988; Epstein et al., 1985; Epstein et al., 1986; Gregg et al., 1992; Margalit & Raviv, 1984; Margalit & Shulman, 1986; Margalit & Zak, 1984; Paget & Reynolds, 1984; Ritter, 1989). In addition, adolescents with LD were found to have a significantly higher prevalence of minor somatic complaints. Furthermore, this high level of anxiety has been correlated with sleeping problems among adolescents with LD. These results suggest that anxiety may have more serious repercussions than was originally thought.

Depression and Suicide

Several recent research reports have suggested specific links among LD, depression, and suicide (Brumback & Staton, 1980; Colbert, Newman, Ney, & Young, 1982; Hayes & Sloat, 1990; Livingston, 1985; Maag & Behrens, 1989; Maag, Rutherford, & Parks, 1988; Peck, 1985; Pfeffer, 1986; Weiss, Minde, Werry, Douglas, & Nemath, 1971). Given the life-threatening nature of depression for adolescents with LD, a closer examination of these variables is warranted.

Depression

Beck (1976) indicated that depression is characterized by negative patterns of thinking or attitudes regarding one’s self, the future, and the environment. It should be quite apparent that the repeated inability of students with learning disabilities to exhibit competence in academic situations could lead to such feelings of powerlessness in school over the years, and one can hypothesize that these feelings become increasingly negative with increasing years of school failure. As the research on anxiety, academic self-concept, and attribution for failure demonstrates, many adolescents with LD are characterized by this negative pattern of thinking, as described by Beck.

During the last decade researchers have documented the occurrence of depression among children and adolescents with LD (Brumback, Staton, & Wilson, 1980; Colbert et al., 1982; Goldstein, Paul, & Sanfilippo-Cohen, 1985; Gregg et al., 1992; Livingston, 1985; Maag & Behrens, 1989; Stevenson & Romney, 1984). In their early study, Goldstein et al. (1985) assessed 85 children with learning disabilities in an alternative school program. The Children’s Depression Inventory (Kovacs, 1980; Kovacs & Beck, 1977) was used, along with a battery of achievement and intelligence tests. Although no comparison group of nondisabled children was included in the study, comparison of the children with learning disabilities and the scores for the norm group on the depression inventory indicated that 26% of the children with LD were severely depressed, compared to only 10% of the normative sample.

Stevenson and Romney (1984) investigated the prevalence of depression among children with learning disabilities aged 8 to 11. Only children enrolled in classes for students with learning disabilities in Grades 3 through 6 whose parents had given permission participated in the study. Depression was assessed by means of the Children’s Depression Inventory. In this study, 14% of the sample was identified as severely depressed.

In view of these results among populations of children with learning disabilities, researchers have begun to document depression among adolescent populations with learning disabilities. For example, in the study by Gregg et al. (1992), reviewed above, results revealed that the 24 adolescent students with learning disabilities who were being served in a rehabilitation setting demonstrated more depression than would normally be expected in comparison to the norm group. The 26 students receiving rehabilitative services demonstrated a T score of 63.03 on depression, which is more than 1 standard deviation above the expected mean.

Maag and Behrens (1989) assessed the prevalence and severity of depression of 465 junior and senior high school resource students with either learning disabilities or severe emotional disturbance. To determine possible developmental differences, students were divided into two categories: junior high school (Grades 7 and 8) and senior high school (Grades 9 through 12). Two self-report measures of depression were group administered in each special education class by the teachers: the Beck Depression Inventory—Short Form (Beck & Beck, 1972) and the Automatic Thoughts Questionnaire (Holton & Kendall, 1980). Results indicated that 20% of the male and 32% of the female junior high students with learning disabilities were found to be severely depressed. Furthermore, 17% of the male and 18% of the female high school students with learning disabilities were found to be severely depressed. This indicates that students in the junior high school sample exhibited more severe depressive symptomatology than students in the senior high sample. Although the lack of a comparison group of nondisabled students weakens these results considerably, these levels of depression are considerably higher than one would expect of nondisabled populations.

Suicide

Adolescent suicide has risen sharply during the past quarter century and ranks as one of the top three causes of death for persons under 24 years of age (Guetzloe, 1989). From 1970 to 1980, the rate of reported suicide deaths rose 66%; when compared to the 1950 rate, the increase has been over 200% (Frederick, 1985).

Suicide ideation, or thoughts about suicide, and parasuicide, or attempted suicide, both show a significant increase with age, principally during adolescence (Rutter, 1986). For example, Carlson, Asarnow, and Orbach (1987) indicated that of 15 adolescents who fantasized about suicide, 11 made suicide attempts. Moreover, suicide, which is extremely rare before puberty, shows a massive increase during the adolescent years (Rutter, 1986).
Researchers concerned with parasuicide among adolescents with or without learning disabilities indicate that depression/suicide does have several identifiable correlates. Peck (1985) suggested that students with learning disabilities who are severely depressed tend to have lower self-concept. Hayes and Sloat (1990) suggested that feelings of helplessness are related to suicide among non-LD children, and numerous researchers have noted relationships between depression and suicide (Carlson et al., 1987; Hayes & Sloat, 1990; Peck, 1985). When these potential correlates are considered, in view of the evidence presented on these variables among adolescents with learning disabilities, it would seem that adolescents with learning disabilities may be at a higher risk for suicide than nondisabled students. Clearly, studies that correlate these variables among parasuicide populations with LD would be helpful here in terms of depicting specific relationships.

Several researchers have demonstrated a potential relationship between increased risk for suicide and learning disabilities (Hayes & Sloat, 1988; Livingston, 1985; Maag et al., 1988; Peck, 1986). For example, Hayes and Sloat surveyed counselors in 129 high schools for information concerning all suicide-related occurrences. The survey was sent to schools in four counties of north central Texas representing urban, suburban, and rural school districts with a broad and varied ethnic base. Information was requested on any suicide-related occurrence (suicide, suicide attempt, or events that the counselor considered probable suicide or attempt). The counselors were asked to complete a survey form for each such occurrence. Forms were returned by 53% of the schools, and results indicate that 14% of the suicide-related occurrences involved adolescents with LD. Although the percentage of students identified as having LD within a school population rarely exceeds 5%, this study suggests that students with learning disabilities may account for a higher percentage of suicide attempts than would otherwise be expected.

Peck (1985) conducted a study of cases of suicide by children and adolescents seen by the Los Angeles Suicide Prevention Center. Included in the study were all suicide cases involving children and adolescents under the age of 15 that occurred in Los Angeles County over a 3-year period—a total of 14 cases. In that study, 50% of the victims were students with LD as identified by the local school districts.

Pfeffer (1986) also suggested a link between learning disabilities and suicide. She presented three case studies to support her contention that children and adolescents with learning disabilities are at a greater risk for suicide because of their cognitive deficits. According to Pfeffer, cognitive deficits limit the student’s ability to make accurate assessments of stressful situations or to work out alternative solutions to his or her problems. As a result of these inaccurate social perceptions, these students may feel so helpless that expressions of suicidal tendencies occur.

**Summary**

In summary, although few studies have been conducted that involve direct comparisons between adolescents with LD and non-LD groups, several studies have suggested the increased risk of adolescents with learning disabilities for both depression and suicide. The high rates of suicide found among adolescents with LD in certain studies is particularly alarming. Also, given the interrelationship between emotional well-being—as measured by self-concept, attributions, anxiety, or depression—and suicide, there seems to be a compelling need for further research in each of these areas.

**Implications**

**Research Methodology**

The number of studies on some of these variables is quite small, and many studies do not include appropriate comparison groups. Although the comparisons with norm-based scores in these studies may give a rough indication of problems, studies that directly compare adolescents with LD to low-achieving non-LD adolescents are certainly warranted. As noted throughout the article, correlation- and regression-based studies that might indicate potential causal relationships among these variables are needed. Other social/emotional variables, such as behavior problems and social skills, should be included. Multitrait, multi-method research designs are needed to address both the interdependence of these measures and the consistency of these self-ratings in adolescent populations with learning disabilities.

Finally, in treatment studies designed to positively affect self-concept or attributes among adolescents with LD, researchers may wish to incorporate pre/post measures of anxiety, depression, or suicide ideation to document any positive treatment effects.
more recent measures and/or multiple measures of these variables in their designs.

Particular care should also be taken in selecting instruments to measure depression. Some measures of depression investigate only the severity of depressive symptomatology. Other measures assess both the severity and the duration of symptoms. Researchers should carefully consider these different measures, though whenever possible the duration of any symptoms should be reported. For example, if a student was given a depression inventory to complete the day after he was cut from the football team, he might obtain a clinically significant score. However, it is unlikely that the depression he experienced would be of significant duration or have accompanying feelings of helplessness and thoughts of worthlessness.

Another measurement issue involves the paucity of information available on the interrelationship of various affective instruments. Comparisons of scores on self-concept, attribution, anxiety, depression, and parasuicide among adolescents with learning disabilities are needed. Assessments that purport to measure one variable have often been found to measure another, and researchers need to develop an understanding of the complex interrelationships among these variables.

Finally, variability related to gender should be considered in measurement of all of these variables. Data regarding sex differences in the emotional adjustment of nondisabled populations has been inconsistent, and many studies of adolescents with learning disabilities have omitted this factor from their analyses.

Developmental Issues

Several methodological issues are apparent in this research related to the development and maturation of the individual with learning disabilities. Bender (1987), to explain the earlier, inconsistent findings related to self-concept, hypothesized a development- lag in self-concept resulting in improved self-concept in adolescents. To date there has been no research support for that suggestion, and the distinction discussed previously between global and academic self-concept apparently accounts for the earlier findings. Still, the issue of development of these emotional traits over time should be investigated more thoroughly. In the Maag and Behrens (1989) study of depression, adolescents with LD were subdivided into two groups based on grade placement, and the younger adolescents demonstrated more depression than the older students. This could represent a developmental lag in maturity, which would indicate that older students with LD are more capable of dealing with the causes of depression than are younger children. However, much more research is needed here. Are low self-concept, poor attributions, and anxiety cumulative over time, resulting in more serious problems with depression later? We need well-designed developmental studies of adolescents with learning disabilities that subdivide the adolescents by age to study these variables further.

The majority of research that has been conducted to date with adolescents with learning disabilities involves children and youngsters in early adolescence. Further research is needed with high school students and young adults. Additionally, some researchers have suggested that there are no differences between students with mild disabilities and low-achieving students (Algozzine & Ysseldyke, 1986). Thus, it is important that this research emphasize the use of matched-IQ and low-achieving controls for studies on adolescents with LD.

Teacher Training

Teacher training for prospective teachers of students with LD and ongoing inservice training for experienced teachers should encompass an understanding of characteristics and symptoms, related conditions, and recommended interventions in the areas of self-concept, attributions, anxiety, depression, and suicide ideation. In the past, preparation for teachers of students with LD was limited to academic instruction; only recently have interventions for social skills been addressed. Furthermore, although researchers have studied treatments for attribution problems, few teachers of adolescents with LD employ these treatments. Many teachers are still poorly prepared to recognize or intervene in many of the emotional issues dealt with by their students.

If additional research confirms the higher risk of depression and suicide among adolescents with LD, training for teachers in recognizing behaviors associated with suicide ideation would certainly be in order. Students who are depressed should be asked about suicidal thoughts and actions. The notion that asking about such things is dangerous is incorrect; there is no evidence to support the idea that bringing up the subject of suicide will cause the student to contemplate it (Muse, 1990). However, most teachers would need additional preparation before they could feel comfortable broaching such a subject with a student.

Teachers of students with LD also need the background to develop and use suicide referral and consultation resources. Students who indicate that they think about hurting themselves or dying need immediate evaluation and intervention by a competent professional. Students who are suspected of suicidal thoughts or tendencies also need immediate intervention. Referral should be made to professionals who are trained in determining the seriousness of suicidal thoughts and the potential for attempted suicide.

Assessment

If other studies confirm these relationships, then assessment of each adolescent's emotional well-being (in self-concept, attributional style, levels of anxiety, and level of depression) should be conducted at the time of di-
agnosis. Schools represent an ideal setting for assessing these variables, as students’ behaviors, interpersonal relationships, and academic performance can be scrutinized in the school setting. Thorough and ongoing assessment of adolescents with learning disabilities should include a study of their affective and cognitive characteristics, if only to serve as a screening for increased emotional problems (Bender, 1987). Additionally, it is critical that diag nosticians and school psychologists consider the manifestations of depression when interpreting the test results of adolescents with learning disabilities.

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