Depressive Symptoms in and Type of Classroom Placement for Adolescents with LD

Karen A. Howard and Georgiana Shick Tryon

Abstract

This study investigated the relationship of depressive symptomatology to type of classroom placement in a sample of adolescents with learning disabilities who attended an urban public high school. Fifty-two students, half of whom were in self-contained classrooms and half of whom were in general education classrooms with resource room, self-rated their depressive symptoms. Their guidance counselors also rated these students' depressive symptoms. Self-ratings of depression did not differ depending on classroom placement. Guidance counselors rated students with learning disabilities who were in general education classrooms as more depressed than students placed in self-contained classes.

Research examining the emotional functioning of students with learning disabilities (LD) has generally examined the effects of special education on self-concept (e.g., Widaman, MacMillan, Hemsley, & Balow, 1992). An area that has received less attention is the extent to which adolescents with LD suffer from more severe degrees of emotional distress such as depression. Recent research has indicated that adolescents in general are at risk for depression (Birmaher et al., 1996). Consistent with research indicating that adolescents with LD have negative self-concepts relative to nondisabled adolescents, it may be that adolescents with LD are also at greater risk for depression (Cohen, 1985; Dalley, Bolofsky, Alcorn, & Baker, 1992; Heath & Wiener, 1996). Heath (1996) reported that adolescents with LD have lower academic self-confidence than their peers without LD. She indicated that the negative correlation between depression and self-concept found in adolescents without LD may also hold for adolescents with LD.

The results of studies comparing depression in adolescents with and without LD have been mixed, with teachers (Hall & Haws, 1989) and peers (Rodriguez & Routh, 1989) rating adolescents with LD as more depressed and adolescents with LD rating themselves as no more depressed (Beer & Beer, 1992; Maag & Reid, 1994) than nondisabled adolescents. These results are consistent with the finding of Moss, Prosser, Ibbotson, and Goldberg (1996) that individuals with LD experience difficulty in self-reporting psychiatric symptoms. Thus, any study of depression in adolescents with LD should include ratings by others who know the adolescents well in addition to ratings by the adolescents themselves.

It is possible that depressive symptomatology in adolescents with LD is associated with variables such as the type of classroom placement. Adolescents with LD may be included in self-contained classrooms or in general education classrooms with nondisabled students. Cohen (1985) has indicated that depressed adolescents are saddened by perceived discrepancies between what their life is and what they feel it ought to be. Adolescents with LD in self-contained classrooms may feel that they ought to be included with nondisabled peers in general education classrooms and may have more depressive symptoms than adolescents with LD who are included in general education classrooms.

There has been some research on the relationship between type of class placement and self-concept in students with LD. Forman (1988) summarized this research, which included some results that showed that students in self-contained classes had lower self-concepts and other results that indicated that students with LD in general education classrooms had lower self-concepts, and concluded that there was no relationship between type of class placement and self-concept. She felt that one reason for the equivocal findings was 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). Thus far, however, no studies have examined depression and classroom placement in this population.
Because the most recent (1997) reauthorization of the Individuals with Disabilities Education Act (IDEA) called for more inclusion of students with disabilities in classes with nondisabled students, the results of such research would prove valuable to educators working with adolescents with LD. This study was designed to test the hypothesis that adolescents with LD who were placed in self-contained classes would rate themselves and be rated by their guidance counselors as more depressed than adolescents with LD who were placed in classrooms with nondisabled students.

Method

Participant Selection and Procedure

Participants were selected from special education students in a New York City public high school with a total enrollment of 2,280. Of this number, 5.6% (127) were enrolled in special education self-contained classrooms, and 16.9% (385) were enrolled in general education classrooms with resource room services. The school population consisted predominantly of African American students (86.3%), with Hispanic students (8.4%) being the next largest racial/ethnic group.

Records of students within the age range of 13 years 0 months to 16 years 11 months who had had recent routine triennial reevaluations or had requested reviews of their special education placements and services according to state legal mandates were examined. These students were evaluated at various times within a 2-year time period during the course of the regular 10-month (September through June) school year. Each student received the complete battery of tests (described later) at whatever time during the school year that he or she was tested. Students classified as having emotional disturbances or other major handicapping conditions (e.g., hearing impairment) were excluded from the study.

Students were considered for inclusion in the study if they exhibited a discrepancy of 50% or more between expected achievement as determined by their Full Scale IQ score on the Wechsler Intelligence Scale for Children-Third Edition (WISC-III; Wechsler, 1991) and actual achievement as determined by any of the composite subscale scores in reading, math, or writing on the Wechsler Individual Achievement Test (WIAT; Psychological Corp., 1992). For example, a 10th-grade student with an IQ of 100 should be functioning at a 10th-grade level. In this case, a 50% discrepancy would be determined if the student performed below the 5th-grade level in any of the defined academic areas. The 50% discrepancy was determined using Table C8 in the WIAT manual, which reports the minimum differences between WISC-III Full Scale IQ score and WIAT standard scores required for statistical significance using the simple difference method. This procedure classifies students as having learning disabilities according to New York State Education Department (1988) guidelines that are in conformance with IDEA regulations.

Students' guidance counselors completed the Devereux Behavior Rating Scale--School Form (DBRS-S; Naglieri, LeBuffe, & Pfeiffer, 1993) as part of the routine assessment protocol. DBRS-S results were used in this study for two reasons. First, because 25% of adolescents with LD also have severe conduct problems (Frick & O'Brien, 1994) that are frequently comorbid with depressive symptoms, students rated by their guidance counselors with a standard score greater than 13 on the DBRS-S Inappropriate Behaviors/Feelings subscale, which is composed of items related to impulse control and aggression, were not included in the potential sample. This cutoff point was chosen because the test authors considered it to be indicative of clinically significant inappropriate behavioral symptomatology (Naglieri et al., 1993).

The second use for the DBRS-S in this study was as a measure of depression. The DBRS-S Depression subscale was used to obtain guidance counselor ratings of students' depressive symptomatology. As stated earlier, individuals with LD sometimes have difficulty self-reporting depressive symptoms. Maag, Rutherford, and Parks (1988) have indicated that high school students' guidance counselors possess considerable knowledge of the characteristics of adolescent depression and are generally able to correctly identify depressed adolescents.

Ninety-six students were identified as having LD using the WISC-III Full Scale IQ score and WIAT standard score as described earlier. Thirty-five of these students were eliminated as potential study participants because they had standard scores greater than 13 on the DBRS-S Inappropriate Behaviors/Feelings subscale. Of the 61 remaining students, 52 (85%) returned signed parental consent and student assent forms and constituted the study's sample.

Participating students' records were examined to obtain Beck Depression Inventory--Second Edition (BDI-II; Beck, Steer, & Brown, 1996) scores. The BDI-II was administered to all students receiving special education as part of their routine evaluations. Administration of the BDI-II was the same for the self-contained classroom and the resource room student groups. The BDI-II was administered individually during the routine evaluations at the same time as the WISC-III and the WIAT. Students who had difficulties reading any of the words on the BDI-II were assisted by the examiner. None of the protocols were read in full to any student. Differences in BDI-II and DBRS-S depression scores according to the type of classroom placement were analyzed using t tests for independent groups.

Participant Characteristics

The 52 students with LD selected by the aforementioned procedures had a mean age of 15.17 years (SD = 1.62) and had been receiving special education services for a mean of 5.15 years (SD = 1.27). All students were African Ameri-
ican. Students had an average IQ of 80.40 ($SD = 10.58$), which falls within the lower end of the low-average range of intellectual classification as defined by the WISC-III. Students’ mean socioeconomic status score as assessed using the Hollingshead Four Factor Index of Social Status (Hollingshead, 1975) was 25.23 ($SD = 12.97$). This score indicates that most parents were semi-skilled workers. The sample contained 24 girls and 28 boys.

Half of the students in the sample were in self-contained classrooms, and half were in general education classrooms with resource room. These classroom placements had been decided when students were in elementary school or junior high school. Students’ high school records did not give the criteria used for initial classroom placement. Students in the two types of classroom did not differ in terms of age, $t(50) = .88, p > .05$; socioeconomic status, $t(50) = -.85, p > .05$; IQ, $t(50) = 1.92, p > .05$; or gender, $\chi^2(1, N = 52) = .31, p > .05$. Table 1 gives means and standard deviations for IQ, math, reading, and writing scores by participant groups and shows that students in self-contained classes had significantly lower reading and math scores than students in general education classrooms with resource room. It may be that students were initially assigned to classrooms in grade school and junior high school based on their math and reading achievement scores.

The students in general education classes with resource room spent the majority of the day in mainstream classes and received one period a day, 5 days per week, of resource room service. The ratio of students to teacher in the resource room was 8:1, as per New York state mandates. The students in self-contained classes were enrolled in classes parallel to the mainstream and had five periods a day of academic courses (i.e., English, math, foreign language, science, social studies), two periods a day of electives (i.e., art/music/occupational education, and gym), and one period a day of lunch. The self-contained classroom students were not restricted to one classroom setting, teacher, or guidance counselor. Similar to the students in general education classes with resource room, the students in self-contained classes changed classes for the different subjects they took. The ratio of students to teacher in the self-contained classes was 15:1, as per New York state mandates. Most students in self-contained classes were integrated with the general education population for nonacademic subject areas.

Ratings of students on the DBRS-S were completed by two guidance counselors (one man and one woman) who each rated half of the students in the study. Both guidance counselors were in their fifties. The man had 30 years of experience with the New York Board of Education, and the woman had 12 years of experience with the New York Board of Education in addition to 25 years of experience as a social worker. Both raters rated equal numbers of students in general education and self-contained classes.

### Assessment Instruments

**WISC-III.** The WISC-III (Wechsler, 1991) is an individually administered intelligence test for assessing intellectual ability for children ages 6 years 0 months through 16 years 11 months. It was standardized on a sample of 2,200 children representative of the general population in terms of gender and ethnicity. Internal consistency demonstrated by the split-half correlational method ranged from .69 to .95. The WISC-III manual provides evidence for construct validity based on factor analyses and criterion-related evidence.

**WIAT.** The WIAT (Psychological Corp., 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. Achievement in reading, writing, spelling, and mathematics is assessed. The WIAT was normed on a sample of 4,252 children balanced according to race, ethnicity, age, and gender based on the U.S. census. Test–retest reliability estimates ranged from .77 to .96.

### Measures of Depression

**BDI-II.** The BDI-II (Beck et al., 1996) is a 21-item self-report measure that assesses the severity of depressive symptoms in adults and adolescents above age 13. Items were developed to correspond to depressive diagnostic criteria of the Diagnostic and Statistical Manual of Mental Disorders–Fourth Edition (DSM-IV; American Psychiatric Association, 1994). Items are rated on a 4-point scale with possible scores ranging from 0 to 63, with higher scores indicating more severe symptoms. The BDI-II was standardized on a clinical sample of 500 and a comparative nondepressive group of college students. Internal consistency reliability data ranged from .92 to .93. One-week test–retest reliability was .93.

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### Table 1

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<th>Measure</th>
<th>General education classroom</th>
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DBRS-S. The DBRS-S (Naglieri et al., 1993) is an objective measure of emotional functioning to be completed by school personnel who are in a position to observe and rate a student’s performance. It has 40 items to be rated on a 5-point scale. The DBRS-S has four subscales: Interpersonal Problems, Inappropriate Behaviors/Feelings, Depression, and Physical Symptoms/Fears. Raw subscale scores are transformed into standard scores (M = 10, SD = 1). A standard score ≥ 13 (1 SD above the mean) is identified by the test authors as the cutoff score representative of clinical significance based on validity studies cited in the DBRS-S manual that were conducted with clinical populations. The DBRS-S was standardized on a population of 3,153 children and adolescents ages 5 to 18 from both general and special education classes. Test-retest reliabilities ranged from .51 to .86 at 1-day, 2-week, and 4-week intervals. Internal consistency reliability coefficients ranged from .90 to .96.

This study used the Inappropriate Behavior/Feelings subscale to exclude potential participants who may have had possible confounding comorbid conditions (i.e., disruptive behavior disorders). The Depression subscale was used to obtain guidance counselors’ assessments of participants’ depressive symptomatology.

Results
Participants obtained a mean score of 14.88 (SD = 10.89) on the BDI-II. This score falls within the lower end of the mild range of symptom severity (Beck et al., 1996). Approximately 45% (n = 23) of the participants endorsed items consistent with mild or greater levels of depression. Thirty-two percent (n = 17) of the participants rated themselves as having moderate to severe symptoms as indicated by scores of 20 or greater (Beck et al., 1996).

The mean for guidance counselor-rated depression on the DBRS-S was 12.25 (SD = 3.26). This score falls in the borderline range of severity approaching the clinically significant cutoff of 13 (Naglieri et al., 1993). Forty-three percent (n = 22) of the participants were rated by their guidance counselors as falling within the clinically significant range. BDI-II and DBRS-S scores correlated .18 (p = .19), which accounts for only 3% of the variance between variables. Previous studies have found significant relationships between depression and age (Angold & Costello, 1995), socioeconomic status (Roberts, Roberts, & Chen, 1997), gender (Angold & Costello, 1995), and verbal and performance IQs (Goldstein, Paul, & Sanfillipo-Cohn, 1985). These variables were correlated with depression scores to determine if any of them should be partialed out of analyses examining the type of classroom placement. BDI-II scores correlated .16 (p = .25) with age; −.14 (p = .33) with socioeconomic status; .27 (p = .06) with gender; −.14 (p = .31) with verbal IQ; and −.03 (p = .81) with performance IQ, accounting for 3%, 2%, 2%, 2%, and 0% of the variances, respectively. DBRS-S scores correlated −.12 (p = .38) with age; −.00 (p = .97) with socioeconomic status; −.03 (p = .80) with gender; .18 (p = .19) with verbal IQ; and .15 (p = .28) with performance IQ, accounting for 1%, 0%, 0%, 3%, and 2% of the variances, respectively. Therefore, none of these variables were partialed out of classroom analyses.

BDI-II scores were not significantly correlated with WATI reading, r = −.06, p = .67, math, r = −.27, p = .06, or writing, r = −.19, p = .28, scores, accounting for 0%, 7%, and 4% of the variances, respectively. DBRS-S scores also were not significantly correlated with WATI reading, r = .25, p = .07, math, r = .02, p = .88, or writing, r = .23 (p = .19), scores, accounting for 6%, 0%, and 5% of the variances, respectively. Thus, students’ achievement in these subject areas does not appear to account for differences in depressive symptomatology.

The BDI-II mean score for participants in self-contained classes was 15.15 (SD = 10.81), and the mean score for participants in general education classes with resource room was 14.62 (SD = 11.17). The difference between groups was not significant, t(50) = −.18, p = .86, effect size d = .05. The DBRS-S mean score for participants in self-contained classes was 11.35 (SD = 3.03), and the mean score for participants in general education classes with resource room was 13.15 (SD = 3.28). The difference between groups was significant, t(50) = 2.06, p = .04, effect size d = .55. This is considered a medium effect size (Cohen, 1992). Guidance counselors perceived students with LD in general education classrooms as more depressed than those in self-contained classrooms.

Discussion
Examination of the depression scores indicates that a large percentage of an urban sample of adolescents with LD rated themselves or were rated by their guidance counselors as having what the test developers considered clinically significant levels of depressive symptomatology. These results are similar to those of Rodriguez and Routh (1989), who found that 61% of their sample met criteria for mild depression and 26% met the cutoff score for severe depression. To the extent that these findings are generalizable to other populations of adolescents with LD, it seems wise to assess these students routinely for depression.

Even though both students and guidance counselors indicated relatively high percentages of depression in the sample, self-rated and guidance counselor-rated depression scores were not significantly correlated. One possible reason for this is that depressive symptoms were assessed using different instruments for students and guidance counselors. These instruments consisted of different items, and this would have lowered the 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 depression ratings is that students who were rated as more depressed by guidance counselors rated themselves as less depressed and vice versa. This is consistent with previous findings that self-ratings and other ratings of depressive symptoms in adolescents with LD are not always in agreement (Beer & Beer, 1992; Maag & Reid, 1994) and indicates the advisability of assessing depression using both self-rating and other informants.

Contrary to expectations, there were no differences in self-rated depression scores relative to the type of classroom placement. Also contrary to expectations, guidance counselors viewed students with LD in general education classrooms as more depressed than those in self-contained classes. Perhaps, in accord with Cohen's (1985) formulations, students in self-contained classes are not seen as being more depressed because they do not perceive the discrepancy between what they are and what they think they ought to be as keenly as adolescents with LD who are continually in the presence of typically achieving students. Academic requirements were more demanding for students in general education classrooms. Perhaps guidance counselors perceived students with LD in self-contained classes as having an easier time academically because they were less subject to pressures that may result in depressive symptoms. Socio-behavioral models (i.e., Seligman, 1975) have focused on the development of depression as a result of difficulties experienced when interacting with the environment. Perhaps resource room students were perceived by their counselors as being ineffective academically and, thus, not positively reinforced for academic performance—a situation that may lead to depression.

This study has several limitations. Because adolescents without LD were not assessed, it is impossible to know whether the high degree of depressive symptomatology found was just associated with students with LD or was the norm in this urban school. Had this study been conducted with students in another high school with a more ethnically and economically diverse population, the results obtained might have been different. Results should be generalized only to similar students and schools and illustrate the need for further study of the effects of type of classroom placement on adolescents with LD.

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