

Depression, Anxiety, and Attributional Style in Learning-Disabled and Non-Learning-Disabled Children

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Abstract:

Investigated depression, anxiety, and attributional style in learning-disabled (LD) and non-LD children. Subjects included 11 children who were new to an LD class, 20 who had been in LD classes for more than 1 year, and a control group of 31 non-special-education children matched to the first two groups with respect to age and sex. Contrary to predictions, children recently assigned to an LD program did not score higher in depression, anxiety, or maladaptive attributional style than those children accustomed to the special-education setting. There were, however, significant differences between the combined LD groups and the control group in both anxiety and peer-nominated depression.

Article:

More than a decade ago, the reformulation of the learned helplessness model introduced a leading cognitive theory of depression (Abramson, Seligman, & Teasdale, 1978). Integrally tied to this reformulation were the concept of maladaptive attributional style and investigations into links between depression and people's attributions.

The phenomenon of learned helplessness was first detected serendipitously in dogs (Maier & Seligman, 1976). The uncontrollability of the situation was hypothesized to generate motivational deficits. Abramson et al. (1978) suggested that an individual experiencing helplessness searches for a cause to explain a failure. Building on Heider's (1958) work, Abramson et al. (1978) identified three dimensions of attributions: internal-external, stable-unstable, and global-specific. The learned helplessness model proposes that individuals encountering a failure in which they were helpless would feel depressed and attribute the situation to something within themselves, to something that they could generalize to other situations, and to something that would apply for a long time; they would then expect the worst from future situations even though they might not actually be helpless.

Early work in adult depressive attributional style has largely corroborated the learned helplessness model. Research has shown that depressed college students (Seligman, Abramson, Semmel, & von Baeyer, 1979) and depressed patients (Raps, Peterson, Reinhardt, Abramson, & Seligman, 1982) exhibit the characteristic maladaptive explanatory style.

The question of childhood depression has recently been addressed (e.g., Kaslow, Rehm, & Siegel, 1984; Kovacs 1983, 1985; Nolen-Hoeksema, Girgus, & Seligman, 1986; Seligman et al., 1984). Findings from this growing area of research have extended the reformulated learned helplessness model to childhood depression. For example, assessments of depression and attributional style have been shown to be significantly correlated (Kaslow et al., 1984; Seligman et al., 1984). Moreover, a longitudinal study (Nolen-Hoeksema et al., 1986) indicated that an interaction between negative life events and attributional style is related to higher levels of future depression.

A further consideration concerns the relationship between anxiety and attributional style. Several studies have indicated a strong relationship between anxiety and childhood depression (e.g., Eason, Finch, Brasted, & Saylor, 1985; Norvell, Brophy, & Finch, 1985). Beck and Rush (1985) discussed a cognitive model of anxiety

in which specific cognitions occur prior to the onset of anxiety. However, prior research has not explored the relationship between anxiety and attributional style in children.

In children, stressful events are often related to school activities. Research has suggested that perceived academic ability is related to depression. In a study of aptitude and achievement, underachievers exhibited lower perceived competence than peers of comparable abilities (Davis & Connell, 1985). Blechman, McEnroe, Carella, and Audette (1986) proposed that academically incompetent children may exhibit depressive symptoms. Also, children who were deemed incompetent obtained the highest peer-nominated depression scores.

In the present study, we examined the relationships among attributional style, depression, anxiety, and academic stress. We investigated whether attributional style is predictive of depression and anxiety in children experiencing a stressful or negative life event — namely, school failure. Because academic difficulty has been associated with depression (e.g., Blechman et al., 1986), we examined children who were segregated from their peers due to learning disabilities (LD). Prior to our study, a thorough examination of depression and anxiety in this population had not been undertaken. Children who had been recently assigned to an LD program due to school failure (the stressor) were compared to long-term participants of a special-education program and to children in regular classes. Specifically, children new to LD classes were predicted to be more depressed, more anxious, and more maladaptively attributional than control children long accustomed to LD classes or control children still in regular classes.

Method

Subjects

Sixty-two children (44 boys, 18 girls) from four Miami-Dade County, Florida, public schools participated in the study. LD status was operationalized as school placement in an LD program. Children's ages ranged from 8 to 13 years.

The first group ($n = 11$; mean age = 11.0 years, $SD = 1.1$ years) consisted of children who were recently (within 1 year) placed in an LD class. The second group ($n = 20$; mean age = 11.0 years; $SD = 1.3$ years) included children who had been enrolled in an LD class for more than 1 year; this group permitted assessment of the effects of recency of LD placement. The third group ($n = 31$; mean age = 10.9 years; $SD = 1.3$ years) consisted of non-LD children matched with those of the first two groups with respect to age and sex; this group was included to control for stresses related to LD, academic failure, and special-education placement. All groups were found to have a comparable sex ratio, parental educational level, and parental occupational level.

Two schools containing large special-education programs provided subjects for the two groups. Two additional schools were solicited for the control group. All children had parental permission to participate, and each child also gave verbal consent. Children were paid \$5 for their participation.

The Children's Attributional Style Questionnaire (CASQ; Kaslow et al., 1984; Kaslow, Tanenbaum, & Seligman, 1978) is a 48-item forced-choice measure of attributional style. Children were instructed to select one of two options that best explained why the event in question happened to them. Half the questions concerned negative outcomes; half concerned positive outcomes. A low score suggests a maladaptive attributional style as theorized in the revised learned helplessness model of depression (Abramson et al., 1978).

The Children's Depression Inventory (CDI; Kovacs, 1983, 1985; Kovacs & Beck, 1977) is a 27-item self-report depression scale. Each item consists of three statements representing graded levels of severity of a depressive symptom; the child selects one of the three statements. The choices are valued from 0 to 2, with high scores indicating depression.

The Children's Manifest Anxiety Scale-Revised (CMAS-R; Eason et al., 1985; Reynolds & Paget, 1981; Reynolds & Richmond, 1978, 1985) is a 37-item self-report measure of anxiety. Each child is instructed to answer *yes* or *no* to an item that relates to a symptom of anxiety. Three subscale scores indicate Physiological

Anxiety, Concentration Anxiety, and Worry and Oversensitivity, with an additional "validity" score to detect social desirability responding. The overall anxiety score is the sum of the three subscale scores.

To counteract bias from employing only three self-report measures, two additional questionnaires were used. Assessment of depression was accomplished using the Peer Nomination Inventory of Depression (PNID; Blechman et al., 1986; Lefkowitz & Tesiny, 1980). Twenty-two questions about classmate behavior measure happiness and depression. Questions require the children to select a classmate (other than themselves) matching the description in the question or to select no one if unable to find a suitable match. Depression and happiness scores are adjusted for the number of classmates making nominations. Nominations for those classmates whose parents did not grant permission for participation were not included. The scores are computed by multiplying the number of nominations by the proportion of students in the class participating and then dividing by the number of possible nominations per question.

To measure anxiety, we supplemented the self-report measure (CMAS-R) with the Anxiety- Withdrawal subscale of the Revised Behavior Problem Checklist (RBPC; Lahey & Piacentini, 1985; Mattison, Bagnato, & Strickler, 1987). The RBPC is an 89-item rating scale with six subscales: Conduct Disorder, Anxiety-Withdrawal, Attention Problem/Immaturity, Socialized Aggression, Psychotic Behavior, and Motor Excess. Item scores range from 0 to 2, with high scores indicating a severe problem. T scores for all subscales were determined using a table of normalized T scores for teachers of normal children at three combined grade levels with separate tables by sex.

Procedure

Four 30-min testing sessions, with one questionnaire per session (CDI, CASQ, CMAS-R, PNID), were conducted during class time in the first semester of the academic year. Delivered on consecutive days, the sessions lasted 1 week; the final weekday was a "make-up" session for those children who had missed an earlier session. Teachers rated the children on all six RBPC subscales during the testing week. With groups of fewer than 12 children, the experimenter read each question aloud twice (because half the children had learning disabilities) while the children read along silently.

Results

The main hypothesis was not confirmed. Children new to LD classrooms were not more depressed, anxious, or maladaptively attributional than students accustomed to the special-education setting (see Table 1). Following a significant result in the multivariate analysis of variance, $F(10, 108) = 3.13, p < .01$, one-way analyses of variance were conducted. *Post hoc* Comparisons were then performed. The recently placed LD children were significantly different: from the control group (i.e., normal children) only with respect to RBPC Anxiety-Withdrawal ratings, $t(440) = 3.25, p < .01$.

Additional tests were conducted to ascertain whether differences existed between the LD children as a whole (the recently placed LD and experienced LD students combined) and the control group. LD children reported significantly more anxiety on the CMAS-R than did the control group, $t(60) = 2.61, p < .05$. LD children were rated as being significantly more anxious on the RBPC Anxiety-Withdrawal subscale than control students, $t(60) = 4.63, p < .001$, and LD children received significantly higher depression nominations on the PNID than did the control group, $t(60) = 2.50, p < .05$.

In fact, in comparison to the recently placed LD students, experienced LD children showed more differences from the students in the control group. Recently placed LD students, as stated earlier, differed from the control group only in relation to the RBPC Anxiety-Withdrawal ratings, whereas experienced LD children scored significantly higher than control students on self-report anxiety (CMAS-R), $t(49) = 2.61, p < .05$, on teacher-rated anxiety (RBPC Anxiety-Withdrawal), $t(49) = 4.42, p < .001$, and on peer-nominated depression (PNID), $t(49) = 2.45, p < .05$. (Note that these three differences were on the same variables on which the LD children as a whole differed from the control group.)

Table 1. Means, Standard Deviations, and Results on Measures for All Groups

	Newly Placed LD Children		Experienced LD Children		Control Children		<i>F</i> (61)	Post Hoc Comparisons ^a
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Raw Score								
CASQ	3.6	4.7	3.8	4.1	5.5	4.9	1.15	
CDI	11.0	5.9	10.2	5.8	8.5	5.0	1.01	
Derived Score (PNID)	9.2	3.5	12.0	8.1	6.6	6.9	3.71*	E > C, N + E > C
T Score								
CMAS-R	50.6	7.1	52.9	8.2	46.2	9.6	3.60*	E > C, N + E > C
RBPC								
Anxiety-Withdrawal	59.4	6.5	63.5	9.3	50.8	9.9	12.26**	N > C, E > C, N + E > C
Conduct Disorder	59.1	12.2	53.9	10.8	51.0	10.1	2.39	
Socialized Aggression	52.5	12.0	49.7	8.4	45.4	4.4	4.25*	E > C, N + E > C
Attention Problem/ Immaturity	57.5	4.8	55.7	7.1	50.1	11.1	3.71*	E > C, N + E > C
Psychotic Behavior	53.2	8.3	52.7	7.7	50.5	6.1	0.88	
Motor Excess	54.3	8.2	52.0	10.5	54.2	11.9	0.29	

^aE = experienced LD children, C = control children, N = newly placed LD children.

* $p < .05$. ** $p < .001$.

Examination of the intercorrelations of the various measures revealed several significant relationships. Due to the number of relationships examined, a more stringent significance level ($p < .01$) was selected. Self-reported depression correlated negatively with attributional style, $r(60) = -.54$, $p < .001$. Furthermore, self-report anxiety correlated significantly with attributional style, $r(60) = .27$, $p < .05$. The CASQ, however, did not correlate significantly with either peer-nominated depression or teacher-rated anxiety. As seen in the partial multitrait-multimethod correlation matrix in Table 2, evidence of convergent validity exists in the correlation between self-report anxiety and teacher-rated anxiety, $r(60) = .46$, $p < .001$. However, the matrix also indicates a possible lack of discriminant validity, with CDI scores correlating with CMAS-R anxiety scores, $r(60) = .45$, $p < .001$, and with PNID depression scores correlating with CMAS-R anxiety scores, $r(60) = .33$, $p < .01$. Table 2 also reveals several significant correlations among the RBPC rating scales, possibly indicating the influence of method variance. Furthermore, CDI depression scores did not significantly correlate with either PNID ratings or with RBPC Anxiety-Withdrawal ratings.

Discussion

The prediction that newly placed LD children would score higher on measures of attributional style, depression, and anxiety than experienced LD children and regular classroom children was not supported. Indeed, the children who had participated in the special-education program for more than 1 year actually scored equal to or higher than the children new to the program on nearly all measures. The experienced LD students had higher mean anxiety scores and higher mean peer-nominated depression scores than control students. Consequently, the suggestion that a stressor (e.g., failure and consequent recent placement into the LD program) interacts with attributional style to generate an acute episode of depression and anxiety was not substantiated. One possible explanation may be that newly placed LD children are not receiving a new stress because they have been experiencing school failure for years. In addition, children accustomed to the LD program or LD children from both groups may have more pervasive and chronic emotional problems than non-LD children.

The unanticipated finding that the entire group of LD children was more anxious (CMAS-R and RBPC Anxiety-Withdrawal) and depressed (PNID only) than the control group was most interesting. 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. However, the variance arising from having different groups of peers and different teachers may influence the ratings. Currently, children's affective problems are not addressed in LD programs to any notable extent. In addition, because experienced LD children are not becoming more emotionally adjusted with time but, in fact, continue to be significantly different from the control group, their depression and anxiety appear to be accentuated.

Table 2. Multitrait–Multimethod Correlation Mix

	Teacher Rating (RBPC)								
	Self-Report		Peer Rating (PNID)	Anxiety-Withdrawal	Conduct Disorder	Socialized Aggression	Attention Problem/Immaturity	Psychotic Behavior	Motor Excess
	CDI	CMAS-R							
Self-Report CDI									
CMAS-R	.45**								
Peer Rating (PNID)	.11	.33							
Teacher Rating (RBPC)									
Anxiety-Withdrawal	.17	.46**	.24						
Conduct Disorder	.24	.17	.12	.27					
Socialized Aggression	.17	.20	-.05	.34	.60*				
Attention Problem/Immaturity	.27	.29	.31*	.68**	.55**	.22			
Psychotic Behavior	.20	.20	.35*	.40**	.45**	.11	.55**		
Motor Excess	.19	.07	.23	.23	.54**	.10	.56**	.55**	

* $p < .01$. ** $p < .001$.

The correlational data corroborated some prior research. CDI scores correlated, significantly with CASQ scores, as shown earlier (e.g., Kaslow et al., 1984; Seligman et al., 1984). However, because the CASQ is a self-report measure that has been correlated with the other two self-report measures only (CDI and CMAS-R) and not the two rating measures (PNID and RBPC Anxiety-Withdrawal) by other observers, the finding of a relationship could be spurious and reflect method variance.

The significant correlation between CDI and CMAS-R scores and between PNID and RBPC Anxiety-Withdrawal scores suggests a robust relationship between depression and anxiety (Eason et al., 1985; Norvell et al., 1985). The item content of the CDI and the CMAS-R has some overlap, however, which may in part explain this significant relationship. However, no relationship was observed between CDI and PNID scores, even though they both purport to measure depression. A similar finding also emerged in a study applying a more complete multitrait-multimethod design (Saylor, Finch, Baskin, Furey, & Kelly, 1984). Such results suggest that at least one of these measures is not assessing depression. Because the peer-nomination inventory correlated significantly with both RBPC and CMAS-R anxiety scores (whereas the CDI correlated significantly with only CMAS-R anxiety scores), at least two explanations are possible; (a) The PNID is measuring the dimension of anxiety more than that of depression, and (b) the correlation between the CDI and the CMAS-R is a function of self-report method variance, and the PNID is the more valid measure of depression.

Previous literature has documented externalizing behavior difficulties in LD children (e.g., see Routh, 1979, for a review). Learning disability has been linked with attention deficit and perhaps with overactivity, impulsivity, distractibility, and aggression. Less research has focused on the internalizing factors associated with learning disabilities. Margalit and Zak (1984) found that LD children evidenced more anxiety and lower self-concept than non-LD children. A study on family climate also found that parents of LD children reported higher self-anxiety than did parents of non-LD children (Margalit & Heiman, 1986). Hence, some research does hint at affective problems associated with learning disabilities. The problems of these LD children incorporate both academic and emotional difficulties; the cause-and-effect relationship between these two aspects warrants further investigation.

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