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RELATIONSHIPS WITH TEACHERS AND BONDS WITH SCHOOL: SOCIAL EMOTIONAL ADJUSTMENT CORRELATES FOR CHILDREN WITH AND WITHOUT DISABILITIES

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In this investigation, fifth- and sixth-grade children ($N = 289$) completed a measure to assess aspects of their relationships with teachers and bonds with schools. Children and teachers also completed measures related to children's social and emotional adjustment. Analyses of responses to these measures indicated that students with disabilities had greater dissatisfaction with their relationships with teachers, poorer bonds with school, and perceived higher school danger than did students without disabilities. Comparisons involving students who were receiving services for emotional disturbance (ED), learning disabilities (LD), mild mental retardation (MMR), other health impairments (OHI), and no disabilities indicated that students with ED and students with MMR had poorer affiliation with teachers and greater dissatisfaction with teachers than students without disabilities. Students with ED also had poorer bonds with school than did students without disabilities. Students with LD and students with MMR had significantly higher ratings of perceived school danger than did students without disabilities. Results of correlational analyses indicated that student-teacher relationship and school bonding variables were associated with social and emotional adjustment variables for students with and without disabilities. © 2001 John Wiley & Sons, Inc.

Supportive social relations are of considerable importance to adjustment and functioning throughout life (Cassidy & Shaver, 1999). For children, relationships with others and bonds with social institutions, such as schools, can help to buffer the effects of stressful life events and promote normative adjustment (Hawkins & Catalano, 1992; Werner & Smith, 1989). In contrast, being dissatisfied with one's personal relationships and feeling alienated from social organizations are related to problematic social and emotional adjustment (Newman, 1981; Resnick et al., 1997).

For the past three decades, the characteristics and importance of close personal relationships and social bonds have been studied in developmental psychology (Ainsworth, Blehar, Waters, & Wall, 1978; Greenberg, 1999), sociology (Hawkins, Doueck, & Lishner, 1988; Hirschi, 1969), and psychiatry (Comer, 1993; Resnick et al., 1997; Rutter, Maughn, Mortimore, Ouston, & Smith, 1979). Much of this work has developed from the concept of resilience and the realization that the quality of children's social relationships and bonds can serve protective functions (Miller, Brehm, & Whitehouse, 1998; Werner & Smith, 1989).

Despite growing awareness of the importance of social and relational experiences, relatively few investigations have focused on school-age children with disabilities and the quality of their social relationships with teachers and school bonds. It may be particularly important to examine these constructs among this population because these students are receiving special education services due to an observed difficulty in social, emotional, and/or academic functioning. Furthermore, students in these categories are at risk of developing additional social and emotional adjustment problems that fall outside the defining characteristics of specific disability classifications (Morrison & Cosden, 1997). For example, although students with learning disabilities (LD) are identified by most school districts because of discrepancies between cognitive functioning and achievement, many of these

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students also develop emotional problems (Huntington & Bender, 1993; Salyer, Holmstrom, & Noshpitz, 1991), behavior problems (Vaughn, Zaragoza, Hogan, & Walker, 1993), and delinquency (Fink, 1990; Werner, 1993). Students identified with emotional disturbance (ED) often have achievement patterns similar to those found among students with LD (Wagner, 1995); and students with mild-mental retardation (MMR) are at risk of developing depression, as well as other emotional and behavior problems (Manikam, Matson, Coe, & Hillman, 1995; Reynolds & Miller, 1985). Thus, the accumulation of difficulties associated with disability classifications makes the identification of factors that promote social, emotional, and academic development among these students extremely important.

In the present investigation initial questions regarding student–teacher relationships and school bonds among students with disabilities are explored through comparisons between students with and without disabilities on a self-report rating scale designed to measure children's perceptions of their relationships with teachers and bonds with school. The study also examines associations between children's perceptions of their relationships with teachers, their bonds with school, and indicators of social, emotional, and school-related adjustment.

Literature Review

Student–Teacher Relationships

Research examining student–teacher relationships among students with disabilities has been conducted primarily by researchers studying social support networks. Morrison, Laughlin, Smith, Ollansky, and Moore (1992) found that adolescents with MMR in self-contained classrooms rated teachers as a source of support more often than did both students with LD in a resource setting and students without disabilities. However, students with LD and students with MMR had higher rates of preferring to talk to "nobody" than did students without disabilities. In contrast, Wenz-Gross and Siperstein (1997) reported that children in upper elementary school with learning problems did not differ from students without disabilities on the number of adults outside of the home (teachers, neighbors, friends of the family) that they would turn to for emotional support, problem-solving support, and companionship.

In terms of the importance of student–teacher relationships for development, the findings from several recent investigations of children without disabilities suggest that these relationships are related to children's social and emotional development. Pianta (1994, 1996, 1999) has examined student–teacher relationships from the perspective of attachment theory (Ainsworth et al., 1978; Bowlby, 1969/1982) by developing a teacher report rating scale (Student–Teacher Relationship Scale, STRS) designed to assess levels of conflict, closeness, warmth, openness, and dependency within student–teacher relationships. Pianta and Steinberg (1992) found that children who had greater warmth and openness in relationships with teachers in kindergarten had better peer social skills, frustration tolerance, and work habits one year later during first grade. In a similar investigation, Birch and Ladd (1997) found that teachers' ratings of young children on the STRS predicted children's academic performance, school affect, attitude toward school, and school involvement.

Researchers studying motivation have also reported the importance of student–teacher relationships. Connell and Wellborn (1991) found that the quality of student–teacher relationships, defined as perceived emotional security with teachers as well as the perceived need for a closer relationship with teachers, was associated with children's motivation and engagement in school. Using the same measure of student–teacher relations, Skinner and Belmont (1993) reported that children's (age range 8 to 12 years) self-report ratings of relatedness with teachers were associated with motivation, behavioral engagement, and emotional engagement in school.

School Bonding

Whereas supportive relationships with teachers appear to enhance social behaviors and engagement in school, feeling bonded or connected with school may deter social deviance, in part, because inappropriate social behaviors can jeopardize continued membership within schools (Hawkins, Catalano, & Miller, 1992). Further, feeling connected with school may enhance social and emotional development because students learn appropriate social and behavioral skills through social interactions (Bandura, 1977; Hawkins et al., 1992; Hawkins & Weis, 1985).

In an early study of social bonds among adolescents, Hirschi (1969) reported that students who liked school and cared about what teachers thought of them had lower rates of delinquency than did youth who did not like school. More recently, Resnick et al. (1997) reported that school connectedness was associated with both social and emotional health utilizing data from over 12,000 youths (grades 7 through 12) from the National Longitudinal Study of Adolescent Health. Findings revealed that school connectedness was negatively associated with alcohol and substance use, violence, emotional distress, and suicidality after controlling for social class, family structure, race, and gender.

Two investigations have examined perceptions of school environments among students with disabilities. Fink (1990) reported that youths (grades 6–12) with learning disabilities (LD) and mental retardation (MR) had poorer attachments to school, and higher levels of fear and victimization at school, than did students without disabilities. She attributed higher rates of delinquency among these same students to these patterns of school bonds. Morrison, Furlong, and Smith (1994) examined students' perceptions of school violence, school safety, and social support among four groups of high school students: (a) students identified as at risk of dropping out of school who attended a half-day self-contained classroom, (b) students who attended a leadership class, (c) general education students, and (d) students with LD who spent 50% or more of their day in a self-contained setting. Findings from this investigation indicated that students identified as at risk of dropping out of high school and students in the leadership group perceived higher incidences of campus violence than did students in the self-contained special education setting. However, although students in the special education setting reported lower levels of "campus violence," these students experienced the highest levels "bullying" of the four groups. Furthermore, for students without disabilities and students in the leadership group, perceptions of teacher and staff support within the school were positively associated with perceptions of school safety. Interestingly, however, for students in the special education setting, teacher support was positively correlated with experiencing violence personally.

Summary and Research Questions

Together, the findings from previous investigations suggest that supportive student–teacher relationships and positive perceptions of school environments are associated with social, emotional, and school-related adjustment. However, there is a need for more research examining these variables among students with disabilities because researchers have reported varying levels of social support and school bonding among these students. In addition, little is known about the association between student–teacher relations, school bonds, and indicators of adjustment among students with disabilities although findings from investigations of nondisabled children suggest that these variables are related.

The purpose of the current investigation is to build on previous work by examining the following questions: (a) Are there differences between students with and without disabilities on a self-report measure of student–teacher relationships and school bonds? (b) Are there differences between students in specific disability groups and students without disabilities on a self-report measure of student–teacher relationships and school bonds? (c) Are students' ratings of student–teacher relation-

ships and school bonds related to indicators of social, emotional, and school-related adjustment among students with and without disabilities?

Method

Participants

The data used in this current investigation were gathered as part of an intervention study described in detail in previous publications (Greenberg, Kusche, Cook, & Quamma, 1995; Quamma & Greenberg, 1994). This intervention project was designed to improve children's emotional understanding through the use of the Promoting Alternative Thinking Strategies (PATHS) curriculum. The participants included 289 children who attended elementary schools in Washington State and who were enrolled in regular or special education classrooms. These classrooms were chosen based on the participating teachers' willingness to be involved in the intervention project. Presentations were made to teachers who were told that they had a 50% chance of being assigned to the intervention or control group.

Table 1 contains the demographic information for the final sample (column 1) as well as information for a subsample of students who will be discussed later (column 2). The current investigation focuses on data collected during the final year of the project. At that time the mean age of the participants was 138 months, approximately 57% of the students were male, and 39% of the students were students of color (African American 31%; Asian American 4%; Native American 1%; Latino 0.5%; Filipino 2%). Thirty-three percent of the students were receiving special education services: 18 students were identified as ED, 20 were classified as OHI (primarily attention deficit disorder), 40 were classified as LD, and 18 were identified as MMR. Students with mild-moderate disabilities were over-sampled for the intervention; however, no preference was made when selecting these students other than their teachers' willingness to participate in the intervention. All students with disabilities were labeled by their schools according to Washington State code *prior* to being selected for the study. Students with disabilities spent 60% or more of their school day in special education settings. According to the Washington State Rules and Regulations (1995), LD is determined by dis-

Table 1
Demographic Information

	Sample* $N = 289$	Subsample** $N = 170$
Mean Age (months)	138	138
Gender		
Male	56.7%	55.9%
Female	43.3%	44.1%
Race		
Students of color	38.8%	35.3%
White	61.2%	64.7%
Educational Status		
Mild-moderate disabilities	33.2%	34.1%
Regular education	66.8%	65.9%
Grade placement	5th and 6th	5th and 6th

*This was the original sample and was used for the primary analyses conducted in this investigation.

**This subsample was used for one additional analysis involving teacher report data.

crepancies between a full-scale intelligence test score and achievement scores in oral or written expression, listening or reading comprehension, basic reading skills, mathematics calculations, or mathematics reasoning. Students with OHI are identified due to an acute health impairment (e.g., physical or neurological) that adversely affects educational performance. Students with ED are identified because of an inability to learn that cannot be explained by intellectual, sensory, or health problems. Students with both externalizing (i.e., behavior) and internalizing (i.e., depression or anxiety) problems are included within the ED category. Students with mental retardation demonstrate below average intelligence *and* below average adaptive behavior as evidenced by standard scores that fall below 70 on both tests. The current sample included only students with MMR. These students scored between 50 and 70 on measures of intelligence and adaptive behavior.

Procedures

At the time of the initial selection process, the participants were in second and third grades. These children were followed for four consecutive years and in each year they, as well as their parents and teachers, completed a battery of assessments designed to measure social, emotional, and school-related adjustments. Although this was a longitudinal study, the focus of the current analysis is on data collected during the final year of the study because this was the only year that children completed a questionnaire related to their relationships with teachers and bonds with school. During this year, children and their teachers completed assessments designed to measure the social and emotional adjustment of the participants. Trained interviewers provided individual assistance to those children who had difficulty reading or understanding items. Teachers completed measures at their own convenience within a 30-day time period.

Student Measures

People In My Life. The People In My Life (PIML; Cook, Greenberg, & Kusche, 1995) instrument focuses on children's perceptions of their relationships with teachers as well as their generalized perceptions of the overall school environment. Questions related to children's relationships with teachers assess the positive and negative affective components of relationships as well as the positive and negative aspects of accessibility and involvement present within relationships. The underlying theoretical basis for the relationship with teacher questions is attachment theory (Bowlby, 1969/1982), and the questions are designed to assess the positive and negative affective and cognitive experience of warmth, trust, accessibility, and responsiveness within relationships (Armsden & Greenberg, 1987). School bonding questions were developed based on prior theory and research in the area of social bonding (Hawkins & Catalano, 1992) and are designed to measure positive bond experiences as well as negative perceptions of the school environment.

Murray and Greenberg (in press) conducted a principal components analysis of this instrument that indicated four reliable factors: Affiliation With Teacher ($\alpha = .88$), Dissatisfaction With Teacher ($\alpha = .66$), Bonds With School ($\alpha = .80$), and School Dangerousness ($\alpha = .60$). Question wordings for these factors are provided in Table 2. Responses to this instrument are given on a 4-point scale (1 = *almost never or never true* to 4 = *almost always or always true*). Total scores on each factor were converted to *z* scores for these analyses for interpretive purposes.

Delinquency Rating Scale for Self and Others (DRSSO). The DRSSO is an adaptation of the widely used National Youth Survey (NYS; Elliot, Huizinga, & Ageton, 1985). The NYS was revised by (a) removing items that were developmentally inappropriate for children in elementary school settings and (b) by asking about activities of both self and friends. The same questions are given for self and friends, and children are asked to indicate the number of delinquent acts engaged in during the past year (e.g., "Stolen something that did not belong to you," "Broken into a building, house, or

Table 2
Items for the Student–Teacher Relationship and School Bonding Factors

Affiliation With Teacher
I like my teachers this year
My teachers respect my feelings
My teachers understand me
I trust my teachers
My teachers pay a lot of attention to me
I get along well with my teachers
My teachers are proud of the things I do
There is a teacher at my school that I can count on when I have a problem
Dissatisfaction With Teacher
I get upset easily with my teachers
I feel angry with my teacher
It's hard for me to talk to my teachers
Bonds With School
Most mornings I look forward to going to school
I feel safe at my school
My school is a nice place to be
I like to take part in class discussions and activities
I feel sure about how to do my work at school
Doing well at school is important to me
Kids at my school have a good chance to grow up and be successful
I like my classes this year
School Dangerousness
I feel scared at my school
There are a lot of drugs and gangs in my school
My school is a dangerous place to be

car"). The response format includes four categories (1 = never, 2 = one or two times, 3 = three or four times, and 4 = more than four times). The adapted measure used for this study is a 56-item self-report measure that yields composite scores or counts of the number of delinquent acts engaged in by self (28 items, $\alpha = .89$) and friends (28 items, $\alpha = .94$; Greenberg & Kusche, 1992). In this study, self-report of delinquency was concurrently related to self-report of substance use ($r = .33$, $p < .001$) and to special education status ($r = .46$, $p < .001$).

Reynolds Child Depression Scale (RCDS). The RCDS is a self-report measure designed to assess depressive symptomology in children (Reynolds, 1989). Sample items are "I feel sad"and "I feel lonely." Responses are made on a 4-point scale (1 = *almost never* to 4 = *all the time*). Reynolds (1989) reported high internal consistency (.90), and high split-half reliability (.89) on this measure using a sample of over 1,600 students from elementary schools in the western and midwestern regions of the United States. In a separate investigation, Reynolds and Graves (1989) reported a test-retest reliability of .85 over a 4-week period. This instrument is associated with other measures of depression and with measures of anxiety and self-esteem (Reynolds, Anderson, & Bartell, 1985).

Seattle Personality Questionnaire for Children (SPQC). The SPQC is a self-report measure designed to assess the general personality characteristics of children. In a previous analysis, Greenberg and Kusche (1990) examined the one-year stability of three factors within this instrument: Conduct Problems, Anxiety, and Somatization. Two of these factors, Conduct Problems and Anxiety, will

be utilized in these analyses. The Conduct Problems factor contains 14 items related to problem behaviors (e.g., "Sometimes I break things on purpose," $\alpha = .85$). The one-year stability for this factor was .49, $p < .001$. The Anxiety factor includes 14 items related to anxiety (e.g., "I am often afraid something bad will happen," $\alpha = .84$) and the one-year stability for this factor was .41, $p < .001$.

Social Competence Rating Scale for Children (SCRSC). The SCRSC is an adapted version of the social competence subscale of the Teacher Child Rating Scale (TCRS; Hightower et al., 1986), and is designed to measure social competencies of children. A similar adaptation of this measure was used in an examination of children's and teachers' views of school-based competencies and their relation to children's peer status (Juvonen, Keough, Ratekin, & Bernheimer, 1992). These investigators found that the adapted measure is associated with peer-rated sociometric status. Greenberg and Kusche (1994) found that the total SCRSC score was significantly associated (.42, $p < .001$) with teachers' ratings on the original measure. Four factors are included in the SCRSC: School Competence, Social Competence, Good Peer Relations, and Handles Peer Stress. Only one of these factors was used in these analyses. This factor, General School Competence, contains questions regarding students' ability to participate (e.g., "I take part in class discussions") and focus (e.g., "I finish my school work") in school (6 items, $\alpha = .77$).

Teacher Measure

Teacher Child Rating Scale (TCRS). This is a two-part measure designed to assess students' social and school competencies (Hightower et al., 1986). Only one of the sections was provided to teachers in this investigation. This section contains 25 items and three reliable factors. The Frustration Tolerance factor contains 11 items ($\alpha = .96$) related to children's ability to handle frustration (e.g., "Copes well with failure"). The Assertive Social Skills factor contains seven items (alpha = .93) related to children's leadership skills with peers (e.g., "Defends own view under group pressure"). The third, Task Orientation, contains eight items ($\alpha = .97$) related children's ability to focus on tasks (e.g., "Functions well even with distractions"). Teachers rate how well each question describes children on a 5-point scale (1 = *not at all* to 5 = *very well*).

Analyses

Three sets of analyses were conducted in this investigation. First, students were grouped according to disability status and differences in sample means were examined. Second, correlational and multiple regression analyses were conducted to examine associations between the student–teacher relationship factors, school bonding factors, *and* students' ratings on the social and emotional adjustment factors. Third, for a subsample of students, multiple regression analyses were conducted to examine associations between *children's* ratings of student–teacher relationship, school bonding variables and *teachers'* ratings of social and school adjustment.

Results

Group Comparisons

Because these data were gathered as part of an intervention study, a preliminary analysis was conducted to examine differences between intervention and control children on the student–teacher relationship and school bond factors. The results of these analyses indicated no differences between these groups on any of the relationship and bonding factors; therefore, the two groups were combined for all analyses involving these variables.

Question 1: Are there differences between students with and without disabilities on a self-report measure of student–teacher relationships and school bonds?

A between-subjects multivariate analysis of variance (MANOVA) was performed with the Af-

filiation With Teacher, Dissatisfaction With Teacher, Bonds With School, and School Dangerousness factors serving as criterion variables and group status (disabled vs. no disability), gender, and race (students of color vs. White students) serving as predictor variables. Gender and race were entered to determine if these variables interacted with disability status in significant ways. Results of this analysis indicated that none of the main effects and none of the interactions involving the gender and race variables were significant. However, the main effect for disability status was significant, Wilks's Λ (4, 278) = .95, $p < .01$, and the corresponding univariate analyses indicated that students with disabilities reported greater dissatisfaction with teachers, $F(1, 281) = 4.0$, $p < .05$; poorer bonds with school, $F(1, 281) = 5.6$, $p < .05$; and greater perceptions of school dangerousness, $F(1, 281) = 11.1$, $p < .001$ than did students without disabilities.

Question 2: Are there differences between students in specific disability groups and students without disabilities on a self-report measure of student–teacher relationships and school bonds?

After finding differences related to disability status, a second between-subjects MANOVA was conducted in which Affiliation With Teacher, Dissatisfaction With Teacher, Bonds With School, and School Dangerousness again served as criterion variables, but now specific disability classifications (i.e., LD, ED, OHI, MMR, and no disability) were entered as predictor variables (see Table 3 for means and standard deviations). This MANOVA was highly significant, Wilks's λ (16, 859) = 8.5, $p < .001$, and all of the univariate tests were also significant: Affiliation With Teacher, $F(4, 284) = 3.8$, $p < .01$; Dissatisfaction With Teacher, $F(4, 284) = 3.4$, $p < .01$; Bonds With School, $F(4, 284) = 2.5$, $p < .05$; and School Dangerousness, $F(4, 284) = 3.7$, $p < .01$. Post hoc analyses indicated that students with LD, OHI, and no disabilities had significantly greater Affiliation With Teacher scores than did students with ED and students with MMR. Students with ED had significantly greater scores on the Dissatisfaction With Teachers factor than did students with LD, OHI, and students without disabilities. On the school-bonding factor, students without disabilities had significantly greater scores than students with ED. Students with LD and students with MMR reported greater perceptions of school danger than did students without disabilities.

Question 3: Are students' ratings of student–teacher relationships and school bonds related to indicators of social, emotional, and school-related adjustment among students with and without disabilities?

Intercorrelations between all variables included in these analyses are presented in Table 4. In general, student–teacher relationship variables and the school bond variables were modestly associated with social and emotional adjustment variables. Children with greater scores on the positive relationship and bond scales (Affiliation With Teacher and School Bonding) were more likely to have positive social and emotional adjustment whereas students with lower scores on these variables had poorer social and emotional adjustment. Similarly, those students with greater scores on the negative relationship and bond scales (Dissatisfaction With Teacher and School Dangerousness) also had poorer social and emotional adjustment scores than did students with lower scores on these scales.

Multiple Regression Analyses

Multiple regression analyses were conducted separately for students with and without disabilities to examine both the cumulative and unique relations between student–teacher relationship, school bond variables, *and* the social, emotional, and school-related adjustment variables. For these analyses, Affiliation With Teacher, Dissatisfaction With Teacher, School Bonding, and School Dangerousness were first entered in a single block with each of the social and emotional adjustment factors entered as criterion variables, respectively (see Table 5). Together, the four relationship and bond variables accounted for a significant portion of the variance in all of social and emotional adjustment

Table 3
Means and Standard Deviations for Students With and Without Disabilities on the Affiliation with Teacher, Dissatisfaction With Teacher, Bonds With School, and School Dangerousness Variables

	Disabilities											
	ED		OHI		LD		MMR		Overall Disabilities		No Disability	
Variable	*M*	(*SD*)	*M*	(*SD*)	*M*	(*SD*)	*M*	(*SD*)	*M*	(*SD*)	*M*	(*SD*)
Affiliation With Teacher	−.46	(1.1)	.35	(1.0)	.12	(1.0)	−.56	(1.5)	−.08	(1.2)	.01	(1.0)
Dissatisfaction With Teacher	.73	(1.3)	−.18	(1.1)	−.01	(1.1)	.35	(1.2)	.17	(1.2)	−.06	(1.0)
Bonds With School	−.49	(1.2)	.05	(1.1)	−.14	(1.1)	−.33	(1.4)	−.22	(1.2)	.08	(1.0)
School Dangerousness	−.03	(1.0)	.25	(1.2)	.22	(1.1)	.62	(1.6)	.26	(1.2)	−.13	(1.0)

Note. All scores reported in *z*-score format. ED = Emotional Disturbance ($n = 18$); OHI = Other Health Impairments ($n = 20$); LD = Learning Disabilities ($n = 40$); MMR = Mild Mental Retardation ($n = 18$); Overall Disabilities ($n = 96$); No Disability ($n = 193$).

Table 4
Intercorrelations Among Variables for Students With and Without Disabilities

	1	2	3	4	5	6	7	8	9	10
1. Affilitation With Teacher	—	−.42**	.71**	−.25**	−.38**	−.11	−.41**	−.26**	−.45**	.44**
2. Dissatisfaction With Teacher	−.34**	—	−.26**	.23**	.23**	.15*	.30**	.23*	.30**	−.13
3. School Bonding	.79**	−.37**	—	−.35**	−.34**	−.13	−.40**	−.29**	−.36**	.55**
4. School Dangerousness	−.08	.21*	−.10	—	.20*	.15*	.31**	.16*	.26*	−.15*
5. Delinquency (Self)	−.37**	.26*	−.32*	.01	—	.61**	.38**	.27**	.69**	−.35**
6. Delinquency (Friends)	−.29*	.29*	−.33**	.05	.80**	—	.32**	.18*	.49**	−.18*
7. Depression	.08	.21*	−.01	.32**	.17	.29*	—	.66**	.51**	−.38**
8. Anxiety	.15	.21*	.01	.32**	.10	.25*	.71**	—	.41**	−.24**
9. Conduct Problems	−.12	.43**	−.17	.31*	.56**	.56**	.49**	.49**	—	−.39**
10. General School Competence	.38**	−.21*	.43**	−.11	−.18	−.11	.11	.11	−.03	—

Note. Upper half of the matrix contains correlations for students without disabilities ($n = 193$) and the lower half contains correlations for students with disabilities ($n = 96$).

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

Table 5
Results of the Multiple Regression Analyses on Indicators of Social, Emotional, and School-Related Adjustment for Students With and Without Disabilities

Predictor	Delinquency Self	Delinquency Friends	Anxiety	Conduct Problems	Depression	School Competence
Disabilities ($n = 96$)						
Affiliation with Teacher	−.29[a]	−.07	.39*	.08	.27[a]	.11
Dissatisfaction with Teacher	.16	.19	.21*	.38***	.19[a]	−.04
Bonds with School	−.04	−.21	−.19	−.08	−.12	.33*
School Dangerousness	−.05	−.02	.29**	.23**	.29**	−.06
Overall R^2	.16**	.14**	.19***	.24***	.16**	.20***
No Disabilities ($n = 193$)						
Affiliation with Teacher	−.24*	.03	−.04	−.31***	−.18[a]	.11
Dissatisfaction with Teacher	.08	.11	.15[a]	.12[a]	.14[a]	.03
Bonds with School	−.12	−.09	−.21*	−.06	−.17[a]	.50***
School Dangerousness	.09	.10	.04	.13[a]	.17[a]	.04
Overall R^2	.16***	.04	.11***	.23***	.24***	.31***

Note. Standardized beta weights are shown. Overall R^2 represents total variance explained in each of the criterion variables when entering all four relationship and bond factors into the regression equation at once.
[a]$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$.

variables regardless of disability status, the one exception was for delinquency of friends among students without disabilities.

To examine the unique relations between each of the relationship and bonding variables and the social-emotional adjustment variables, a second series of regression analyses were conducted wherein each of the relationship and bonding variables were entered into the regression equation in varying orders.

Delinquency. After controlling for the other three variables, Affiliation With Teacher made the largest unique contribution to the variance in self-reported delinquency among students with (3%) and without disabilities (3%). Examination of the correlations revealed that children who reported greater affiliation with teachers reported fewer incidences of delinquency than those with poorer affiliations.

For students with disabilities, Dissatisfaction With Teacher made the largest unique contribution (3%) to the variance in students' ratings of friends' incidence of delinquency. Students with disabilities who reported greater dissatisfaction with teachers also had friends who had higher incidences of delinquency than did those children who were less dissatisfied with teachers.

Emotional Adjustment. Perceptions of school dangerousness made the largest unique contribution to the variance in children's ratings of depression (8% for disabled, 3% for nondisabled). For students with disabilities, dissatisfaction with teachers also uniquely contributed 3% to the variance in depression scores. Students who reported greater school danger had higher depression scores than students with lower scores on these variables.

School dangerousness also made the largest unique contribution to the variance in anxiety scores among students with disabilities (8%), followed by affiliation with teacher (6% of the variance), and dissatisfaction with teacher (4% of the variance). Students with disabilities who had greater school dangerousness scores, lower affiliation with teacher scores, and greater dissatisfaction with teachers had greater anxiety. Among students without disabilities, only school bonding was uniquely related to ratings of anxiety (2% of the variance).

Among students with disabilities, dissatisfaction with teacher (12%) and school dangerousness (5%) made significant contributions to the variance in students' ratings of conduct problems. Students with disabilities who reported greater dissatisfaction with teacher and greater school dangerousness reported more conduct problems than did students with lower scores on these variables. Among students without disabilities, only affiliation with teacher made a unique contribution to the variance in conduct problem scores (4%).

Self-Report Ratings of School Competence. For both groups of students, school bonding made the largest unique contribution (4% for disabled, 11% for nondisabled) to the variance in school competence. Children who reported greater school bonding reported higher school competence than did those with lower school bonding.

Analysis of Teacher Report Variables

To further examine associations between student–teacher relationships, school bonds, and adjustment, a second series of multiple regression analyses were conducted using teachers' ratings of students' social and school adjustment as criterion variables. Unfortunately, not all teachers completed this measure so these analyses focused on a subsample ($n = 170$) of the original sample from whom teacher data were obtained. The demographic information for the subsample is provided in Table 1. The criterion variables in these analyses were the Frustration Tolerance, Assertive Social Skills, and Task Orientation factors from the TCRS (Hightower et al., 1986). Students were grouped according to disability status and each of the factors from the Teacher Child Rating Scale was regressed separately on the student–teacher relationship and school bond variables.

Frustration Tolerance. Among students with disabilities, the relationship and bonding variables were not significantly related to teachers' ratings of frustration tolerance. For students without disabilities, the relationship and bonding variables accounted for a significant portion of the variance in Frustration Tolerance scores, $R^2 = .15$, $F(4, 107) = 4.6$, $p = .002$. Examination of the partial correlations indicated that affiliation with teacher (partial $r = .17$) and school dangerousness (partial $r = -.17$) accounted for the greatest amount of variation in students' Frustration Tolerance scores. Students without disabilities who had higher affiliation with teachers and lower ratings of school danger had greater Frustration Tolerance scores.

Assertive Social Skills. When entered as a single block, the four relationship and bonding variables were not significantly related to teachers' ratings of assertive social skills among students with disabilities. However, for students without disabilities, these variables did account for a significant portion of the variance in Assertive Social Skills scores, $R^2 = .17$, $F(4, 107) = 5.4$, $p = .001$. School bonding accounted for the most unique variance in students Assertive Social Skills scores (partial $r = .24$) followed by affiliation with teacher (partial $r = .11$). Students with higher school bonding and higher affiliation with teacher scores had higher Assertive Social Skills ratings.

Task Orientation. The relationship and bond variables accounted for a significant portion of the variance in teachers' ratings of task orientation for students with, $R^2 = .19$, $F(4, 53) = 3.0$, $p = .03$, and without, $R^2 = .13$, $F(4, 107) = 3.9$, $p = .01$, disabilities. School bonding (disabilities partial $r = .30$; no disabilities partial $r = .13$) and school dangerousness (disabilities partial $r = .26$; no disabilities partial $r = -.11$) accounted for the most unique variation in Task Orientation scores for both groups. Students with and without disabilities who had higher school bonding scores had higher Task Orientation scores than did those students with lower school bond scores.

Discussion

In this investigation, students with disabilities who spent the majority of their school day in special education settings had greater levels of dissatisfaction with teachers, poorer bonds with school,

and greater perceptions of school danger scores than did students without disabilities. These findings suggest that students with disabilities in general, and students with ED, MMR, and LD in particular, are not experiencing the social and relational context of schools in the same way as are students without disabilities. Further, having supportive relationships with teachers, feeling connected with school, and feeling safe in school was associated with indicators of social, emotional, and school-related adjustment. However, since these data were gathered at one point in time, these findings should be interpreted as correlational rather than causal.

Discussion of Group Comparisons

The analysis of specific disability groups indicated that students with ED and students with MMR had poorer affiliations with teachers than students in other groups. Students with ED were also more dissatisfied with their relationships with teachers than were students without disabilities. One of the defining characteristic of students with ED is an inability to build or maintain satisfactory interpersonal relationships with teachers (Kauffman, 1997), so this finding supports classification criteria. However, developing an understanding of ED children's perceptions of these relationships is important since social support from teachers may provide these students with a much needed resource in school environments. In this investigation, the Affiliation With Teacher factor contained questions related to the affective and involvement qualities of relationships. Thus, characteristics such as trust, respect, dependability, and attention were the primary features that these students perceived as lacking in their relationships with teachers. The dissatisfaction component represents the opposite pole of positive relationship experiences indicating that students with ED were angrier, and felt upset more with teachers than were students without disabilities. Although such anger may be consistent with the relationship patterns of these children in general, there may be specific actions that teachers can take to reduce this hostility. In the future, research focused on examining specific interaction patterns between teachers and students with ED, as well as the influence of these interactions on children's perceptions and beliefs about relationships would help to clarify the role that student–teacher interactions play in the formation of these beliefs.

Students with ED also reported poorer bonds with school than did students without disabilities. Although this investigation provides no evidence related to the causes of such patterns, they could be related to the settings where these students are educated and/or to the school-related activities in which they are involved. The students with ED in this sample were placed in self-contained classrooms for the majority of the school day, a pattern that resembles placement patterns for students with ED on a national level (U.S. Department of Education, 1994). It is possible that such settings isolate students with ED from the everyday school activities that can promote positive school bonds. Wagner (1995) reported that adolescents with ED were less likely than other youth to belong to clubs or social groups in school. The youths in her study were more likely to seek and engage in relationships with peers outside of school settings. Such patterns of limited engagement could produce lower levels of connectedness within school environments. In the future, investigations examining associations between patterns of involvement in school and patterns of school bonding among ED students may provide further insight into the causes of poorer school bonding among this population.

Although students with ED reported poorer student–teacher relationships and poorer school bonds than children without disabilities, these students reported low levels of school danger, suggesting that they did not perceive the school setting as dangerous. In an investigation of high school students with learning and behavior problems, Morrison et al. (1994) reported a similar finding. These researchers noted that these students are often identified as the perpetrators of violence. Although no data regarding levels of school-initiated violence among the students in this investigation were collected, this explanation may account for why these children did not view the school setting as dangerous.

In contrast to students with ED, students with LD and students with MMR did perceived school as more dangerous than students without disabilities. In a similar investigation among adolescents, Fink (1990) reported poorer bonds and more fear and victimization among adolescents with LD and MR. Similarly, Morrison et al. (1994) reported that high school students with LD in a self-contained classroom experienced more "bullying" than students without disabilities in other settings. The findings here support these findings with fifth- and sixth-grade children and suggest that such patterns may develop in elementary school. Numerous investigations have found that students with MMR have poor social status among peers (see Gottlieb, 1975, for a review), and others have found that academic achievement status is related to social status (Gottlieb, Semmel, & Veldman, 1978; La Greca & Stone, 1990; MacMillan & Morrison, 1980). Since both of these groups are likely to have low school achievement, and since achievement patterns among these groups have been linked to social status, it may be that poor peer relationships within the school context cause students in these groups to have higher levels of fear in school settings.

Discussion of the Multiple Regression Analyses

The findings from the multiple regression analyses suggested links between students' relationships with teachers, their bonds with school, and indicators of social, emotional, and school-related adjustment. Although these findings do not offer evidence of causality, since these data were gathered at one point in time, they are consistent with the findings from investigations of nondisabled students (Goodenow, 1993a, 1993b; Pianta & Steinberg, 1992).

Interestingly, for children with and without disabilities, the affiliation with teachers variable made the largest unique contribution to the variance in delinquency scores. Although research on adolescent populations has demonstrated associations between school bonds and delinquency (Hirschi, 1969), the findings here suggest that it may also be important to consider the specific nature of student–teacher relationship qualities. When children feel positive support and involvement with teachers they may be less likely to engage in delinquent behaviors because they may be hesitant to risk the consequences that the inappropriate behaviors will have on their relationships with teachers (Bandura, 1977). In addition, a large body of research has shown that relationships with antisocial peer groups can lead to delinquent behavior (see Tolan & Guerra, 1994), and students who have supportive relationships with teachers may be less likely to engage in antisocial peer group affiliations. Some support for this assertion is provided by the finding that dissatisfaction with teachers *was* significantly associated with delinquency among friends. Although these effects are likely reciprocal, students who were more dissatisfied or angry with teachers reported higher levels of delinquent-type behaviors among their friends than did those students who were less dissatisfied with teachers.

The four relationship and bond factors were also related to children's self-report ratings of depression, anxiety, and conduct problems regardless of disability status. Other researchers have observed similar patterns among adolescent populations (Resnick et al., 1997), and the findings here suggest that such patterns may develop in childhood. School dangerousness made the largest unique contribution to children's ratings of depression and anxiety for students with and without disabilities. Children who felt more uncomfortable or scared in school had higher levels of internalizing symptoms (e.g., depression and anxiety) than students with lower perceived school danger. Again, the direction of these effects is likely reciprocal although feeling unsafe in school environments can undoubtedly increase anxiety within those settings.

Finally, the four relationship and bonding variables were related to children's perceptions of school competence, and, for a subgroup of the original sample, children's perceptions of student–teacher relationships and school bonds were related to teachers' ratings of school competence. In both analyses (child and teacher report) school bonding made the largest unique contribution to the

variance in school competence scores. School dangerousness scores also contributed to the variance in teachers' ratings of task orientation. Other researchers have observed similar patterns among students without disabilities (Goodenow, 1993a, 1993b), and these findings are consistent with those but also suggest that feeling positively connected with school is important for children with disabilities. In the future, finding ways to increase children's levels of school connectedness while reducing anxiety and fear of victimization in school environments may have important implications for the way children with disabilities function in school.

Although these findings add to a growing body of evidence related to the importance of social and contextual variables in schools, this investigation has a number of limitations. The first is related to the direction of the effects; as these findings are cross-sectional they do not offer evidence of causality. Further, variables such as these may transact together. In the future, longitudinal research that examines the transactional nature of these relations as well as interaction models would help clarify the influence of variables such as these on child functioning.

A second issue is related to informant bias. The data used for most of these analyses were gathered from children. Although the PIML had adequate internal consistencies, it is possible that children did not provide an accurate picture of their actual relationships and bonds. This is a complicated matter because students are probably the best source of information regarding their own relationships and bonds. In the future, measures that rely on observational data and on other informants (e.g., teachers) would be useful for validating self-reports. In addition, most of the measures of social and emotional adjustment were also generated from student self-report measures. Although these measures had high internal consistencies, concurrent validity and test-retest reliability, some rater bias is likely. However, the fact that student self-reports related to teachers' ratings of task orientation indicates at least modest validity.

Conclusions

In this investigation, children's perceptions of the quality of their relationships with teachers and bonds with school were associated with indicators of social, emotional, and school-related adjustment. It may be particularly important to develop further understanding of the importance of social and contextual influences in the lives of children with disabilities because these children are experiencing, or are at risk of experiencing, poor social, emotional, and academic adjustments. Although this research is correlational in nature, it does provide preliminary evidence regarding the importance of these constructs among children with disabilities. The findings also suggest that children with disabilities in general, and certain disability groups in particular, have poorer relationships and bonds than do students without disabilities. Although research focused on understanding student–teacher relationships and school bonding among children with disabilities is only beginning to emerge, educational programs that seek to improve the quality of these relationships as well as programs that increase levels of membership and belonging within schools, may help to promote healthy development among these students.

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