

# Examining the Importance of Social Relationships and Social Contexts in the Lives of Children With High-Incidence Disabilities

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In this investigation, the authors examined the perceptions children had of their relationships with parents, peers, and teachers; their bonds with schools and neighborhoods; and their social, behavioral, and emotional adjustment. Participants were 96 students in the fifth and sixth grades who were receiving special education services for learning disabilities ( $n = 40$ ), emotional and behavioral disorders ( $n = 18$ ), mild mental retardation ( $n = 18$ ), and other health impairments ( $n = 20$ ). Findings indicated that both positive and negative aspects of these children's relationships and bonds were associated with social, behavioral, and emotional adjustment. Furthermore, different aspects of these relationships and bonds were differentially associated with adjustment variables. These findings suggest that it is important to consider how social relationships and social contexts relate to the adjustment and functioning of children with high-incidence disabilities.

Within the fields of psychology, sociology, and education, there has been a rapid expansion of research focused on understanding individual development within social contexts (Lerner & Simi, 1995; Moos, 2003; Rutter, 2000). Much of this work has been drawn from perspectives that place an emphasis on the dynamic interplay among the developing individual, family, and peer relationships; neighborhood and community contexts; and broader cultural forces. Attachment theory (Bowlby, 1969/1982), theories of ecological development (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 1998), and developmental systems theory (Ford & Lerner, 1992; Lerner, 1998) all emphasize the interactive nature of individual development within contexts.

Approaches that rely on such perspectives have the potential to deepen our understanding of the stressors, risks, and supports that can negatively and positively affect development across time (Sameroff, Bartko, Baldwin, Baldwin, & Seifer, 1998). However, despite growing awareness of the importance of social and contextual experiences in the social sciences in general, less is known about how social relationships and contexts influence the lives of children and youth with high-incidence disabilities. This is a vulnerable population whose members are more likely to experience peer rejection, depression, anxiety, behavioral and conduct problems, delinquency, poor academic adjustment, school dropout, and poorer long-

term outcomes than are children, youth, and adults without disabilities (Guevremont & Dumas, 1994; Haager & Vaughn, 1995; Manikam, Matson, Coe, & Hillman, 1995; Murray, Goldstein, & Edgar, 1997; Pearl & Bay, 1999; Werner, 1993). Depending on the specific disability category under investigation, there are some differences in adjustment and outcome status, but a substantial body of evidence supports the claim that children and youth with learning disabilities (LD), emotional and behavioral disorders (EBD), and mild mental retardation (MMR) are at a heightened risk for experiencing difficulties throughout their lives (Al-Yagon & Mikulincer, 2004; Pearl & Bay, 1999; Werner, 1993). Developing greater understanding of the social and contextual lives of children with high-incidence disabilities may therefore be particularly important because social relationships and contexts may act as risk or protective factors in the lives of these children (Al-Yagon & Mikulincer, 2004; Murray, 2003; Werner, 1993).

## Caregiver-Child Relationships

A considerable body of research has connected caregiver-child relationship quality with developmental outcomes. From an attachment perspective (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1982), the quality of the early and ongoing

relationships children have with caregivers can positively or negatively affect children's social, emotional, and school-related functioning and adjustment (Thompson, 1999; Urban, Carlson, Egeland, & Sroufe, 1992). Although the bulk of research on attachment has focused on infant-caregiver relationships, sufficient data exist in regards to the importance of these relationships in childhood and early adolescence as well (Greenberg, 1999; Kerns, Tomich, Aspelmeier, & Contreras, 2000).

Armsden et al. (1990) found that children and early adolescents with clinical depression had poorer quality relationships with caregivers than did nondepressed psychiatric controls and children without psychiatric disorders, suggesting that attachment quality may play a particularly important role in depression. Granot and Mayselless (2001) examined associations between attachment security in middle childhood and the social, emotional, behavioral, and school-related adjustment of children. After controlling for student gender, these researchers found that children's ratings of attachment security were positively associated with academic and emotional adjustment and negatively associated with behavioral problems. In a cross-sectional investigation of attachment during adolescence, Engels, Finkenauer, Meeus, and Dekovic (2001) found that adolescents' self-reports of attachments to parents were associated with self-esteem and depression. Youths in this investigation who reported greater communication and trust in their relationships with their parents had greater self-esteem and lower ratings of depression. Together, these and other findings suggest that the quality of relationships with caregivers are related to children's social, emotional, and school-related functioning. These findings also suggest that attachment relationships continue to have an influence on psychosocial functioning beyond early childhood.

Although less is known about caregiver-child attachment relationships among children with high-incidence disabilities, the findings from several investigations have suggested that children with LD are less likely than students without disabilities to receive secure attachment classifications and that the quality of these children's relationships with caregivers are associated with socioemotional functioning (Al-Yagon & Mikulincer, 2004). Furthermore, Al-Yagon and Mikulincer found that children with LD who were classified as emotionally resilient were more likely to have a secure attachment with caregivers than were children with LD who were classified as nonresilient.

## Teacher-Child Relationships

Children and youth spend a considerable portion of their lives in schools, and much of this time is spent with teachers. A number of researchers have extended the primary concepts of attachment theory to theories of how teacher-child relationships can affect development (Pianta, Hamre, & Stuhman, 2003). Pianta (1999) argued that emotional support versus

emotional distance, and active responsiveness versus unresponsiveness, are essential features of teacher-child relationships that contribute to the psychological adjustment of the child. According to this perspective, emotionally warm relationships between teachers and students characterized by open communication, support, and involvement can provide children with a sense of security within school settings that can promote social, emotional, and academic competencies.

Pianta (1994) and Pianta and Steinberg (1992) found that children with greater support in relationships with teachers had fewer behavioral problems, had greater social competencies, and were better adjusted to school than were children with greater conflict in their relationships with their teachers. Similarly, Birch and Ladd (1997) reported that the quality of the relationships children had with their teachers was associated with children's academic performance and school involvement after controlling for gender. Students with closer relationships with teachers had better academic adjustments than did students with conflicted relationships.

Although positive relationships between teachers and children appear to be associated with aspects of children's adjustment and functioning, several investigators reported that negative relational patterns between teachers and children are more strongly associated with adjustment than are positive patterns. For example, Ladd, Birch, and Buhs (1999) found that conflict in teacher-student relationships was a stronger predictor of young children's antisocial behaviors and poor school adjustment than was prosocial teacher-student relations. Similarly, Murray and Murray (2004) found that conflict in teacher-student relations was more strongly associated with children's internalizing and externalizing symptomology than was closeness in teacher-student relationships. These findings suggest that it may be particularly important to develop a better understanding about how negative teacher-student relationships affect the social and emotional functioning of children.

## Peer Relationships

Peer relationships also play an important role in influencing the social, emotional, and academic health of children and adolescents (Bagwell, Newcomb, & Bukowski, 1998; Berndt & Keefe, 1995; Hartup, 1996; Parker & Asher, 1993; Wentzel & Caldwell, 1997). Peer relationships have been studied from numerous perspectives, including friendship (Berndt, 1999), peer rejection (Ladd & Kochenderfer-Ladd, 2002), and bullying (Furlong, Chung, Bates, & Morrison, 1995). Theories of peer relationships have relied heavily on social learning models (Berndt, 1999). According to this perspective, children learn both appropriate and inappropriate behaviors according to the norms of their peer group.

A considerable body of research has stressed the role that peer friendships and peer rejection play in determining children's social, emotional, and academic health. Parker and

Asher (1993) found that the quality of these peer relationships was associated with children's ratings of emotional health (i.e., loneliness). Ladd (1990) reported that children with a larger number of classroom friends in elementary school had greater gains on measures of academic performance and school liking than did children with fewer classroom friends. Although less is currently known about the importance of peer relationships among children with high-incidence disabilities, a substantial body of evidence suggests that children with disabilities are more likely to experience peer rejection and less likely to rely on peers as a source of social support than are students without disabilities (Morrison, Laughlin, Smith, Orlansky, & Moore, 1992; Wenz-Gross & Siperstein, 1996).

## School Bonding

Research focused on understanding the importance of school bonding falls under two general theories. First, a number of investigators have examined school bonding from a social learning perspective. Social control theory (Hirschi, 1969) and the social development model (Hawkins & Weis, 1985) suggest that students learn appropriate and inappropriate social, behavioral, and school-related skills through interactions with peers and adults within social institutions, such as schools. A second perspective related to school bonding suggests that the psychological experience of having a strong sense of belonging within social contexts is a basic psychological need that, when met, promotes comfort, exploration, and positive motivation at an individual level (Deci, Vallerand, Pelletier, & Ryan, 1991; Furrer & Skinner, 2003; Goodenow, 1993).

Empirical support exists for both of these perspectives. Resnick et al. (1997) found that adolescents who had higher ratings of school connectedness had lower ratings of emotional distress, suicidal ideation, violence, alcohol use, and drug use than did youth with lower ratings of connectedness. In a nationally representative sample of more than 130 schools, Anderman (2002) examined both the between-school and within-school effects of school belonging on the psychological adjustment of youth. His findings indicated that higher levels of school belonging were associated with lower levels of depression, social rejection, and school problems after controlling for child ethnicity, parent level of education, grade level, and student gender. Among students with high-incidence disabilities, the findings from several investigations suggest that students with LD, MMR, and EBD are more likely than students without disabilities to perceive school as a dangerous setting and to report lower attachments to schools (Fink, 1990; Morrison, Furlong, & Smith, 1994).

## Neighborhoods

At a slightly broader level, neighborhood contexts also appear to influence adjustment. Although there are a variety of theo-

retical perspectives on how neighborhoods operate and affect child development (Jenks & Mayer, 1990), substantial evidence from both cross-sectional and longitudinal investigations suggests that neighborhoods can exert a powerful influence on the social adjustment of children (Brooks-Gunn, Duncan, & Aber, 1997). Most often, the construct of *neighborhood* is defined by specific geographical tracts or areas. Characteristics of these areas (e.g., income levels, proportion of individuals with college degrees) are used to predict outcomes among children and youth. For example, Brooks-Gunn, Duncan, Klebanov, and Sealand (1993) found that the socioeconomic status of neighborhoods was associated with (a) the cognitive and behavioral development of children and (b) school dropout and out-of-wedlock parenting among adolescents.

## Summary and Current Investigation

The findings just discussed indicate that a diverse and growing body of evidence supports the contention that children's social relationships and contextual experiences are associated with adjustment and development. Currently, less is known about social relationships and social contexts among children with high-incidence disabilities, and we know of no investigations that have studied these constructs concurrently. We designed the current study to examine associations among the perceptions children had of their social relationships; their contextual experiences; and various indicators of social, behavioral, and emotional adjustment.

## Method

### *Participants and Procedures*

The participants in this study were part of a longitudinal study conducted by researchers at the University of Washington (Greenberg, Kusche, Cook, & Quamma, 1995; Kam, Greenberg, & Kusche, 2004). All 96 participants attended one of seven elementary schools in an urban area in the northwestern United States. The majority of the sample (69%) were boys, 73% of the children were White, and all of them were receiving special education services in one of the following categories: LD ( $n = 40$ ), EBD ( $n = 18$ ), MMR ( $n = 18$ ), or Other Health Impairments ( $n = 20$ ). All of the students had been identified by public schools according to the *Washington [State] Administrative Code (WAC)* prior to the investigation. At the time of the investigation, all of the students were receiving special education services in a separate classroom for 60% or more of the school day. The mean estimated IQ for the sample on two subscales of the *Wechsler Intelligence Scales for Children-Revised* (Wechsler, 1974) was 87.5 ( $SD = 17.4$ , range = 51.0–138.0). The mean age at the time of assessment was 11 years 6 months (range = 9.0–13.11), and all students were in the fifth or sixth grades.

We obtained written consent from the parents of all participants. All instruments were administered individually during the second half of the school year by trained interviewers who attended an intensive course that covered general issues in testing and testing procedures for administering and scoring each measure. In cases where children had difficulty reading or understanding measures, the interviewers read the items aloud. A different group of trained personnel entered student responses into an SPSS database.

## Measures

**People In My Life (PIML).** This measure is the primary focus of this investigation and is an adaptation of the *Inventory of Parent and Peer Attachment* (IPPA; Armsden & Greenberg, 1987). The IPPA is a widely used measure of adolescent attachment and peer relationships. The instrument taps internal working models by measuring (a) the positive affective/cognitive experience of trust in the accessibility and responsiveness of attachment figures and (b) the negative affective/cognitive experiences of anger or hopelessness resulting from unresponsive or inconsistently responsive attachment figures (Armsden & Greenberg, 1987). The PIML (Cook, Greenberg, & Kusche, 1995) is designed to measure 10- to 12-year-old children's representations of their relationships with parents, peers, and teachers, and it also contains items designed to assess school and neighborhood connectedness (Hawkins & Weis, 1985; Hirschi, 1969). Recent analyses of this instrument indicated that the measure contains 13 factors related to these relational and contextual domains (Cook et al., 1995; Murray & Greenberg, 2000; Ridenour, Greenberg, & Cook, in press). In the appendix, we provide an overview of the factor structure of the PIML instrument and internal consistency reliabilities for the current sample. These reliabilities are consistent with prior research on larger populations. Responses to this measure are made on a 4-point scale (1 = *almost never or never true*, 2 = *sometimes true*, 3 = *often true*, and 4 = *almost always or always true*).

**Social Competence Rating Scale for Children (SCRSC).** The SCRSC is an adapted version of the Social Competence subscale of the *Teacher-Child Rating Scale* (Hightower et al., 1986), and it is designed to measure the social competencies of children. The measure was adapted for use with children by changing the wording of questions on the teacher version so that they applied to self. A similar adaptation of this measure was used in an examination of the views that children and teachers held regarding school-based competencies and their relationship to children's peer status (Juvonen, Keough, Ratenkin, & Bernheimer, 1992). These investigators found that the adapted measure is associated with peer-rated sociometric status. Furthermore, Greenberg and Kusche (1994) found that the total SCRSC score was significantly associated (.42,  $p < .001$ ) with teacher ratings on the original measure. The SCRSC contains four factors: School Competence, Social Competence,

Good Peer Relations, and Handles Peer Stress. In the current investigation, we examined scores on one of these factors, School Competence (6 items,  $\alpha = .80$ ; sample item: "I finish my schoolwork").

**Reynolds Child Depression Scale (RCDS).** The RCDS is a self-report measure designed to assess depressive symptomatology in children (Reynolds, 1989). Sample items include "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 when using a sample of more than 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). In the study reported on here, we used total raw scores from 16 items related to depressive symptomatology. The internal consistency reliability for the current sample was strong ( $\alpha = .91$ ).

**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 and (b) asking about activities of both self and peers (Greenberg & Kusche, 1992). The same questions are given for self and friends, and children are asked to indicate the number of delinquent acts in which they engaged during the past year (e.g., "Stolen something that did not belong to you," "Broken into a building, house, or car"). The response format uses four categories (1 = *never*, 2 = *one or two times*, 3 = *three or four times*, and 4 = *more than four times*). The adapted measure we used in our 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,  $\alpha = .91$ , current sample) and friends (28 items,  $\alpha = .95$ , current sample). We used only the ratings of self-reported delinquency.

**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 both the 1-year stability and the test-retest reliability of three factors within this instrument: Conduct Problems, Anxiety, and Somatization. We used the first two factors in our study. The Conduct Problems factor contains 14 items related to problem behaviors (e.g., "Sometimes I break things on purpose,"  $\alpha = .84$ , current sample). Greenberg and Kusche (1990) reported that the test-retest reliability for this factor was .49,  $p < .001$ . The Anxiety factor consists of 14 items related to anxiety (e.g., "I am often afraid something bad will happen").

Greenberg and Kusche (1990) reported that the test–retest reliability for this factor was .41,  $p < .001$ . For the current sample, the alpha on this factor was .84.

## Results

We conducted three sets of analyses to examine associations between aspects of children’s perceptions of their relational and contextual experiences and social–emotional adjustment. First, we conducted preliminary analyses to examine group means on the factors of the PIML according to gender, racial status, and disability status. We also used an analysis involving schools to determine whether the scores the children obtained on the factors of the PIML varied as a function of the school they attended. Second, we examined zero-order correlations among all variables included in this investigation. Third, we ran a multivariate regression analysis to examine how the set of PIML variables predicted the set of social–emotional adjustment variables and followed with univariate analyses to examine the relationship between the set of predictors and each criterion variable separately.

### Group Differences

Means and standard deviations for the self-report scales on the PIML instrument are presented in Table 1. We conducted a MANOVA to determine differences among groups on the subscales of this instrument. Disability status (LD, EBD, MMR, and OHI), gender, and racial status (students of color vs. White students) were entered as predictor variables, and the 13 factors related to children’s social and relational experiences were entered as criterion variables. The overall test was not significant, and neither were any of the univariate tests for disability, gender, or ethnicity. We ran a series of one-way ANOVAs to examine whether there were differences among schools on the 13 PIML factors. None of these tests were significant, indicating no significant difference in children’s perceptions according to the school attended. Because we found no differences among the observed groups, we combined all groups for the remaining analyses.

### Correlational Analyses

Zero-order correlations among all of the PIML factors and the indicators of social and emotional adjustment are presented in Table 2. Parent Trust was negatively associated with delinquency and depression. Parent Communication was negatively associated with conduct problems, delinquency, and depression. In contrast, Parent Alienation was positively associated with conduct problems, anxiety, and depression. Children’s perceptions of their relationship with teachers followed similar patterns. Affiliation with Teachers was negatively associated with delinquency and positively associated with school competence. In contrast, Alienation in Teacher–Student Rela-

tionship was positively associated with conduct problems, delinquency, anxiety, and depression and was negatively associated with school competence. Trust and Communication With Peers was associated with only one adjustment variable, school competence. However, the negative peer scales (Alienation and Delinquency) were positively associated with conduct problems, and Peer Alienation was positively associated with anxiety and depression. The Peer Delinquency subscale was positively associated with delinquency ratings for self. The Positive School Bond subscale was negatively associated with delinquency and was positively associated with school competence. The School Dangerousness subscale was positively associated with conduct problems, anxiety, and depression. The Positive Neighborhood subscale was not significantly associated with any of the social and emotional adjustment variables; however, the Neighborhood Dangerousness subscale was positively associated with conduct problems, delinquency, anxiety, and depression.

### Multivariate Regression Analysis

We conducted a multivariate regression analysis using the factors from the PIML instrument as predictors and the social–emotional adjustment factors as criterion variables. This analysis allowed for an examination of the overall relationship between the two sets of variables (i.e., all predictors and all criterion variables). The results of this analysis were significant, Wilks’s lambda = 3.0 (65, 373),  $p < .001$ . We then examined the results of the univariate analyses to determine the relationship between the relational/contextual constructs (PIML) and each criterion variable (see Table 3).

**Conduct Problems.** Together, the 13 factors on the PIML accounted for almost half of the variance in students’ Conduct Problems subscale scores,  $R^2 = .44$ ,  $F(13, 82) = 4.9$ ,  $p < .001$ . Examination of the part (semipartial) correlations indicated that Parent Communication was the strongest predictor of conduct problems,  $t = -3.50$ ,  $p < .001$ . This variable accounted for approximately 8% of the variance in conduct problems after controlling for all of the other factors on the PIML instrument. Teacher Alienation also uniquely contributed to the variance in Conduct Problem subscale scores, accounting for approximately 7% unique variance in these scores,  $t = 3.29$ ,  $p < .01$ . Peer Alienation ( $t = 2.34$ ,  $p < .05$ ) and Peer Trust ( $t = 2.06$ ,  $p < .05$ ) also made significant unique contributions to the equations and accounted for 4% and 3% unique variance, respectively. Examination of the correlation matrix (see Table 2) indicated that children with greater scores on the Communication With Parents and Peer Trust factors had lower scores on the Conduct Problems subscale. Children who had greater scores on The Teacher Alienation/Dissatisfaction and Peer Alienation factors had greater Conduct Problems subscale scores than did children with lower scores on these variables.

TABLE 1. Means and Standard Deviations on PIML Factors by Disability Status, Gender, and Race

Factors	High-incidence disabilities						Gender		Race	
	EBD M (SD)	LD M (SD)	OHI M (SD)	MMR M (SD)	Boys M (SD)	Girls M (SD)	STCL M (SD)	White M (SD)		
Parent										
Trust	-.102 (.77)	.090 (1.1)	-.115 (1.0)	.029 (1.0)	.100 (.90)	-.230 (1.2)	.091 (.86)	.034 (1.1)		
Communication	-.326 (.89)	.193 (.93)	.006 (1.1)	-.110 (1.1)	.032 (.98)	-.073 (1.1)	-.166 (1.1)	.062 (.94)		
Alienation	.190 (1.0)	-.033 (.84)	.012 (1.2)	-.129 (1.1)	-.063 (1.0)	.145 (.99)	.119 (.97)	-.044 (1.0)		
Teacher										
Teacher Affiliation	-.385 (.94)	.174 (.89)	.367 (.84)	-.409 (1.2)	-.009 (1.0)	.021 (.93)	-.342 (1.1)	.127 (.93)		
Teacher Alienation	.489 (1.1)	-.340 (.90)	-.300 (.94)	.154 (1.0)	.001 (1.0)	-.003 (.95)	.191 (1.1)	-.071 (.97)		
Peer										
Trust	-.040 (.79)	.044 (1.0)	.104 (.96)	-.173 (1.2)	.075 (.94)	-.174 (1.1)	-.284 (1.1)	.105 (.96)		
Communication	-.266 (.87)	.075 (1.0)	.283 (.94)	-.216 (1.1)	-.037 (.99)	.086 (1.0)	-.394 (1.1)	.146 (.94)		
Alienation/Diss	-.180 (.87)	-.041 (1.1)	.023 (.70)	.246 (1.3)	-.126 (.98)	.291 (1.0)	.082 (1.0)	-.031 (1.0)		
Delinquency	-.101 (.78)	-.014 (1.0)	-.117 (.77)	.261 (1.3)	.022 (.95)	-.051 (1.1)	-.037 (1.1)	.014 (.99)		
School										
Bond	-.292 (1.0)	.062 (.96)	.225 (.92)	-.097 (1.1)	-.040 (1.0)	.092 (.97)	-.241 (1.1)	.089 (.96)		
Danger	-.211 (.87)	-.035 (.88)	-.012 (1.0)	.301 (1.3)	-.089 (.92)	.205 (1.1)	-.058 (1.0)	.021 (.99)		
Neighborhood										
Bond	-.449 (.86)	.056 (1.0)	.037 (1.0)	.282 (1.0)	-.098 (1.0)	.226 (.86)	-.025 (1.0)	.009 (.10)		
Danger	.063 (.93)	-.055 (1.0)	-.204 (.77)	.285 (1.3)	-.007 (.97)	.016 (1.1)	.358 (1.1)	-.133 (.91)		

Note.  $N = 96$ ; PIML = *People in My Life* (Cook, Greenberg, & Kusche, 1995); EBD = Emotional and behavioral disorders; LD = learning disability; OHI = Other health impaired; MMR = Mild mental retardation; STCL = Student of color; White = Caucasian. All scores were mean centered on the total population prior to generating means and standard deviations for each group. All scores are presented in standard score format,  $M = 0$ ,  $SD = 1$ .

TABLE 2. Correlation Matrix for All Variables Used in These Analyses

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Parent																			
1. Trust	—																		
2. Communication	.60***	—																	
3. Alienation	-.31**	-.21*	—																
Teacher																			
4. Affiliation	.43***	.43***	-.04	—															
5. Alienation	-.14	-.08	.38***	-.34***	—														
Peer																			
6. Trust	.50***	.48***	-.14	.46***	-.17	—													
7. Communication	.30**	.53***	-.01	.45***	-.18	.74***	—												
8. Alienation	-.08	-.02	.35***	.17	.17	-.19	-.06	—											
9. Delinquency	-.42***	-.36***	.04	-.39***	.28**	-.29***	-.24*	-.02	—										
School																			
10. Bond	.51***	.47***	-.08	.79***	-.37***	.52***	.50***	.12	-.41***	—									
11. Danger	-.27**	-.07	.17	-.08	.21*	-.10	.04	.36***	.17	-.10	—								
Neighborhood																			
12. Bond	.28**	.34***	.06	.27**	-.04	.36***	.42***	.16	-.17	.43***	-.12	—							
13. Danger	-.15	-.15	.24*	-.19	.29**	-.03	-.06	.31**	.15	-.15	.50***	-.32**	—						
Social-emotional																			
14. Conduct problems	-.13	-.31**	.25*	-.12	.43***	-.02	-.11	.32**	.23*	-.17	.31**	-.10	.39***	—					
15. Self-delinquency	-.27**	-.38***	.13	-.37***	.26*	-.14	-.20	-.08	.37***	-.32**	.01	-.20	.23*	.56***	—				
16. Anxiety	-.06	-.05	.42***	.15	.21*	-.10	.09	.54***	-.15	.01	.32***	.09	.28**	.49***	.10	—			
17. Depression	-.36***	-.29***	.50***	-.06	.30**	-.18	-.12	.40***	.01	-.20	.34***	-.08	.26**	.51***	.24*	.61***	—		
18. School competence	.08	.10	-.04	.38***	-.21*	.25*	.29***	.03	-.12	.43***	-.11	.13	-.17	-.03	-.18	.11	-.04	—	

Note. N = 96.

\*p < .05. \*\*p < .01. \*\*\*p < .001.

TABLE 3. Results of the Multivariate Regression Analyses on Indicators of Social-Emotional Adjustment

Predictor	Conduct problems	Delinquency	Anxiety	Depression	School competence
Parents					
1. Trust	.15	-.00	.15	-.10	-.18
2. Communication	-.42***	-.27*	-.18	-.23	-.13
3. Alienation	-.01	.03	.19	.21	-.06
Peers					
6. Trust	.31*	.11	-.24	.08	.06
7. Communication	-.04	.02	.29*	.03	.20
8. Alienation	.26*	-.06	.33**	.28*	.10
9. Delinquency	.09	.22*	-.21*	-.19	.03
Teachers					
4. Affiliation	.08	-.19	.30*	.19	.05
5. Alienation	.34**	.14	.08	.11	.05
School					
10. Bond	-.09	.07	-.32*	-.11	.46*
11. Danger	.12	-.16	.12	.18	-.09
Neighborhood					
12. Bond	-.04	-.05	.08	.03	-.16
13. Danger	.10	.17	.12	-.03	.17
Total R <sup>2</sup>	.44***	.31**	.48***	.39***	.27**

Note. Standardized beta weights are shown when all variables were included in the equation.  
\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Self-Delinquency.** Together, the 13 relational and contextual variables accounted for approximately one third of the variance in students' self-reported delinquency scores,  $R^2 = .31$ ,  $F(13, 82) = 2.8$ ,  $p < .01$ . Parent Communication made the largest unique contribution to delinquency (4%,  $t = -2.01$ ,  $p < .05$ ) followed by Peer Delinquency, which also made a significant contribution to the equation ( $t = 2.01$ ,  $p < .05$ ). This variable accounted for 3% of the variance. Children with greater Communication With Parents scores had lower delinquency scores than did children with lower Communication With Parent scores. Children with greater Peer Delinquency scores had greater scores on self-reports of delinquency than did children with lower scores on this factor.

**Anxiety.** Together, the 13 PIML factors accounted for approximately half of the variance in students' anxiety scores,  $R^2 = .48$ ,  $F(13, 82) = 5.7$ ,  $p < .001$ . Peer Alienation ( $t = 3.29$ ,  $p < .01$ ) accounted for approximately 6% of the variance in this equation, followed by Peer Delinquency ( $t = -2.16$ ,  $p < .05$ ) and Peer Communication ( $t = 2.08$ ,  $p < .05$ ), which each uniquely contributed approximately 3% variance to the equation. Last, two school-related variables were significantly associated with anxiety scores. First, Teacher Affiliation contributed approximately 3% unique variance to the equation ( $t = 2.12$ ,  $p < .05$ ), and School Bonding ( $t = -2.11$ ,  $p < .05$ ) contributed an additional 3% unique variance. Although not significant at

the .05 level, Parent Alienation approached significance ( $t = 1.9$ ,  $p < .07$ ). Children with greater Peer and Parent Alienation scores had greater scores on the measure of anxiety. Children with greater scores on Peer Communication and Teacher Affiliation had lower anxiety scores. Interestingly, students with greater Peer Delinquency scores had lower anxiety scores.

**Depression.** The 13 PIML factors accounted for approximately 40% of the variance in students' depression scores,  $R^2 = .39$ ,  $F(13, 82) = 4.0$ ,  $p < .001$ . After controlling for all of the other PIML factors, Peer Alienation accounted for the largest amount of variance in depression, 4% ( $t = 2.46$ ,  $p < .05$ ). Although not significant at the .05 level, Parent Alienation ( $t = 1.89$ ,  $p < .07$ ), Peer Delinquency ( $t = 1.85$ ,  $p < .07$ ), and Parent Communication ( $t = -1.84$ ,  $p < .07$ ) approached significance. Students with greater Peer Alienation, Peer Delinquency, and Parent Alienation scores had greater scores on the depression variable. Students with greater Parent Communication scores had lower depression scores.

**School Competence.** The 13 PIML factors accounted for approximately one fourth of the variance in students' School Competence subscale scores,  $R^2 = .27$ ,  $F(13, 82) = 2.4$ ,  $p < .01$ . School Bonding was the only unique predictor of children's School Competence scores, and this variable accounted for approximately 6% of the variance after controlling for all

other predictors ( $t = 2.57, p < .05$ ). Examination of the correlation matrix indicated that children who had greater scores on the School Bond variable had greater scores on the School Competence variable than did children with lower scores on this variable.

## Discussion

In this investigation, students with high-incidence disabilities completed a questionnaire designed to measure aspects of their social relationships with parents, teachers, and peers as well as their perceptions of schools and neighborhoods. Children also completed measures designed to assess social, behavioral, and emotional competence. Findings from the correlational and multivariate regression analyses suggested that there were associations between children's relational-contextual experiences and social-emotional adjustment. The strength of these associations varied according to the criterion variable studied. However, between one fourth and one half of the variance in all of the criterion variables was explained by children's ratings on the PIML. These findings add to previous research by showing that social relationships with parents, peers, and teachers—as well as school bonds and neighborhood contexts—are related to the social, behavioral, and emotional adjustment of students with high-incidence disabilities. Specific outcomes of this study indicated that the quality of children's relationships with caregivers were associated with both behavioral and emotional adjustment. Perceptions of parent communication emerged as a particularly important variable that was associated with children's reports of conduct problems, delinquency, and depression. Further, parent alienation made unique contributions to children's reports of anxiety and depression. These findings are consistent with prior work in the field of attachment indicating that supportive caregiver-child relationships are associated with children's emotional and behavioral health (Armsden et al., 1990; Granot & Mayseless, 2001). In addition, research on parenting styles and parental monitoring practices suggests that active communication and involvement between parents and their children is negatively associated with delinquency (Laird, Pettit, Bates, & Dodge, 2003). Together, these findings provide preliminary evidence that communication between caregivers and children with disabilities may be important for promoting behavioral and emotional health.

Alienation in relationships with teachers made a significant, unique contribution to the equation involving conduct problems, suggesting that students who were not satisfied with these relationships had more externalizing behavior problems. Although a considerable body of research has indicated that negative relationship patterns between caregivers and children are associated with conduct problems, the findings from our study suggest that it is also important to consider the quality of children's relationships with teachers. Several other inves-

tigators (Ladd et al., 1999; Murray & Murray, 2004) have reported similar findings among populations of nondisabled children. These studies suggest that negative aspects of teacher-child relationships are more strongly related to adjustment than are positive dimensions of these relationships. One of the strengths of the PIML measure is that it contains both positive and negative factors within each relationship and bonding domain, thus allowing for an examination of how both positive and negative relational and contextual experiences influence adjustment. The fact that dissatisfaction with teacher-student relationships was associated with children's perceptions of their own conduct problems suggests that it may be particularly important to find ways of intervening in relationships that are high in conflict. Although negative teacher-student relationship patterns were strongly associated with conduct problems, positive teacher-student affiliations emerged as a predictor of children's anxiety scores. This finding suggests that students who feel supported by and attached to teachers are less likely to experience anxiety.

Peer relationships also contributed to children's behavioral and emotional adjustment. Peer alienation accounted for a significant amount of unique variance in conduct problems, delinquency, anxiety, and depression. Furthermore, peer trust and peer communication were negatively associated with conduct problems and anxiety. These findings suggest that students with disabilities who experience alienation, anger, and rejection in peer relationships are more likely to experience emotional and behavioral problems, whereas students who experience positive peer relationships are less likely to experience emotional and behavioral problems. These findings are consistent with research in the area of peer rejection that have suggested that students who feel alienated from peers are more likely to develop aggressive patterns of behavior (Buhrmester, 1990; Ladd & Kochenderfer-Ladd, 2002) and also more likely to experience depression and anxiety (Juvonen, Nishina, & Graham, 2000; Parker & Asher, 1993). In addition, students with disabilities who reported higher levels of delinquency among friends were also more likely to report engaging in a greater number of delinquent acts themselves. This finding is consistent with prior research related to deviant peer group affiliations (Dishon & Owen, 2002) and suggests that early involvement in deviant peer groups among students with disabilities may increase their involvement in deviant behavior.

Students' perceptions of school environments emerged as the strongest unique contributor to the equation involving students' ratings of school competence. This finding is consistent with prior research indicating that students who feel a sense of belonging or connectedness in school environments are more likely to also be academically engaged in schools (Battistich, Solomon, Watson, & Schaps, 1997; Goodenow, 1993). This finding suggests that positive aspects of school contexts contribute to the adjustment of children with high-incidence disabilities.

### *Preliminary Implications for Practice*

This investigation provides preliminary evidence of the importance of developing further understanding about social relationships, school contexts, and neighborhood contexts in the lives of children with high-incidence disabilities. These findings must be replicated and expanded through further research prior to making any broad generalizations about their significance. However, the findings reported here, and a growing body of evidence in the social sciences in general, suggest that it is important to explore strategies for intervening in the lives of children and youth with high-incidence disabilities in ways that enhance the quality of their relationships with adults and peers. Such efforts should be coordinated with academic interventions because strong cognitive and academic skills are essential for promoting the short- and long-term adjustment of children and youth.

Coordinated programs designed to enhance social relationships are likely to involve individual skill development at the child level, as well as training for teachers and parents on strategies that they can implement to promote positive relationships. For example, school-based social-emotional learning programs that develop children's social-cognitive processing skills can provide children with disabilities with the skills they need to develop supportive relationships (Greenberg, Kusche, Cook, & Quamma, 1995; Kam, Greenberg, & Kusche, 2004). In addition, however, as children develop these skills at an individual level, they also need opportunities to use them in interactions with adults who understand the importance of establishing and maintaining supportive and nurturing relationships with children (Hawkins et al., 2003). Therefore, programs designed to enhance adult-child relationships should provide teachers and parents with opportunities to develop a better understanding of the general importance of their relationships with children, as well as specific strategies for enhancing these relationships (Murray, 2002). Although additional research in this area is needed prior to promoting effective practices among students with disabilities, strategies that emphasize reductions in relational conflict, coupled with increased personalized attention, ongoing warmth, open communication, and involvement, appear to be most likely to have a positive impact on adult-child relationships. School-based efforts designed to promote positive *peer* interactions should also involve teaching explicit relationship-building skills to children and providing opportunities to use and generalize those skills. Therefore, explicit instruction in social-emotional learning, coupled with classroom-based strategies, such as peer tutoring and cooperative learning, could assist children in developing and maintaining positive peer relations (Hawkins et al., 2003).

Finally, efforts that target a number of relationships and contexts concurrently (i.e., family, school, peers) may be of particular importance because it appears that different relational and contextual experiences contribute to different aspects of

children's adjustment. In this investigation, the regression equations that contained all of the relationship and bonding variables explained the largest amount of variance in the adjustment variables. This suggests that an accumulation of positive or negative relationships and experiences may have a stronger impact on the overall health and well being of children and youth with high-incidence disabilities than does any single variable on its own. Certainly, a growing body of evidence in the field of prevention science indicates that multifaceted programs designed to improve individual skills—as well as family, school, and community supports—have the highest probability of achieving a sustained positive impact on the lives of children and youth (Greenberg et al., 2003; Hawkins et al., 2003; Weissberg & Greenberg, 1998). Expanding such programs more deliberately in the field of special education would help to provide evidence of the effectiveness of multicomponent, multiyear programs designed to promote the social, behavioral, and emotional health of children with high-incidence disabilities.

### *Limitations*

This investigation has a number of limitations that must be considered. First, our data focused exclusively on children's perceptions; therefore, they are susceptible to same-source rater bias. Although this limitation is significant, it is also important to note that a considerable body of research has indicated that early adolescents can provide reliable information regarding their personal relationships and their social and emotional functioning (Elliot et al., 1985; Jolliffe et al., 2003; Lynch & Cicchetti, 2000). Furthermore, the measures used in this study had strong internal consistency reliabilities. Future investigations that incorporate measures from multiple sources and that consider cross-informant associations would help to strengthen the findings reported here.

A related problem is that these measures were gathered at one point in time and in no way indicate causality. Future research that examines similar variables over time, as well as investigations that utilize experimental designs, would help to clarify directional effects and would also provide a clearer picture of interrelationships between relational and contextual variables.

Another limitation is that these data were gathered from a relatively small sample of children attending schools in one geographical location. Future investigations that focus on larger numbers of children and expand data collection beyond one geographical location would help to provide evidence regarding the generalizability of these findings.

Finally, these data do not provide information regarding differences between the perceptions of students with and without disabilities. Several other investigations have indicated that students with disabilities are less likely than students without disabilities to have secure attachments to caregivers (Al-Yagon & Mikulincer, 2004), positive relationships with

peers (Morrison et al., 1992; Wenz-Gross & Siperstein, 1996), and positive school bonds (Fink, 1990; Morrison, Furlong, & Smith, 1994). Additional research in this area is needed. Future investigations that examine differences between the perceptions of children with and without disabilities would provide information about potential differences that exist between the social and contextual experiences of these children. Such data would provide researchers with opportunities to begin to explore factors that may contribute to these differences, which in turn would provide a basis for intervention efforts.

### AUTHORS' NOTE

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## Appendix:

### Original Items, Factor Structure, and Internal Consistency Reliabilities for the Current Sample on the *People In My Life* Questionnaire

#### Parent Factors

##### Trust ( $\alpha = .87$ )

1. My parents respect my feelings.
3. My parents accept me as I am.
4. My parents understand me.
5. My parents care about me.
6. I trust my parents
7. I can count on my parents to help me when I have a problem.
13. My home is a nice place to live.
14. My parents pay attention to me.
20. I get along well with my parents
21. My parents are proud of the things I do.

##### Communication ( $\alpha = .76$ )

2. My parents listen to what I have to say.
8. My parents can tell when I am upset about something.
9. I talk to my parents when I am having a problem.
10. If my parents know that something is bothering me, they ask me about it.
11. I share my thoughts and feelings with my parents.

##### Alienation ( $\alpha = .56$ )

15. My parents don't understand what I am going through these days.
16. I get upset easily with my parents.
17. I feel angry with my parents.
18. It's hard for me to talk to my parents.
19. I feel scared in my home.

#### Peer Factors

##### Trust ( $\alpha = .91$ )

22. My friends respect my feelings.
23. My friends listen to what I have to say.
24. My friends accept me as I am.
25. My friends understand me.
26. My friends care about me.
27. I trust my friends.
28. I can count on my friends to help me when I have a problem.
33. I like to be with my friends.
34. My friends pay attention to me.
40. I get along well with my friends.

41. My friends are proud of the things I do.
48. My parents like and approve of my friends.

##### Communication ( $\alpha = .81$ )

29. My friends can tell when I am upset about something.
30. I talk to my friends when I am having a problem.
31. If my friends know that something is bothering me, they ask me about it.
32. I share my thoughts and feelings.
47. Doing well at school is important to my friends.

##### Alienation/Dissatisfaction ( $\alpha = .72$ )

35. My friends don't understand what I am going through these days.
36. I get upset easily with my friends.
37. I feel angry with my friends.
38. I feel scared with my friends.
39. It's hard for me to talk to my friends.
42. I think my friends are a bad influence on me.
43. I wish I had more friends.

##### Delinquency ( $\alpha = .64$ )

44. If one of my friends asked me to skip school, I would do it.
45. If I were at a party and one of my friends offered me some beer, I would drink it.
46. If a friend asked to copy my test, I would let him or her do it.

#### Teacher Factors

##### Teacher Affiliation ( $\alpha = .90$ )

52. I like my teacher(s) this year.
54. My teachers respect my feelings.
55. My teachers understand me.
56. I trust my teachers.
57. My teachers pay a lot of attention to me.
60. I get along well with my teachers.
62. My teachers are proud of the things I do.
67. There is a teacher at my school that I can count on when I have a problem.

##### Teacher Alienation/Dissatisfaction ( $\alpha = .68$ )

58. I get upset easily with my teachers.
59. I feel angry with my teachers.
61. It's hard for me to talk to my teachers.

### *School Factors*

#### School Bonding ( $\alpha = .81$ ).

- 49. Most mornings I look forward to going to school.
- 50. I feel safe at my school.
- 51. My school is a nice place to be.
- 53. I like my class(es) this year.
- 63. I like to take part in class discussions and activities.
- 64. I feel sure about how to do my work at school.
- 66. Doing well at school is important to me.
- 68. Kids in my school have a good chance to grow up and be successful.

#### School Dangerousness ( $\alpha = .55$ )

- 69. I feel scared at my school.
- 70. There are a lot of drugs and gangs in my school.
- 71. My school is a dangerous place to be.

### *Neighborhood Factors*

#### Positive Neighborhood ( $\alpha = .71$ )

- 72. My neighborhood is a nice place to live.
- 73. A lot of people in my neighborhood are friendly and helpful.
- 74. Kids from my neighborhood have a good chance to grow up and be successful.

#### Neighborhood Dangerousness ( $\alpha = .74$ )

- 75. I feel scared in my neighborhood.
- 76. Lots of kids in my neighborhood get into trouble.
- 77. There are a lot of drugs and gangs in my neighborhood.
- 78. My neighborhood is a dangerous place to live.

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*Note.*  $N = 96$ . Items 12 and 65 were dropped from these analyses and are not included here.