Merrill-Palmer Quarterly

Volume 50 | Issue 2 Article 1

2004

Consulting Editors

Merrill-Palmer Quarterly Editors

Elementary School Children with Behavior Problems: Teacher-Child Relations and Self-Perception. A Prospective Study

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The teacher relations and self-perception of children with externalizing (n = 26) and internalizing behavior problems (n = 25) and a nonproblematic group (n = 44) were studied prospectively. The children were assessed with the Rutter CBQ in 1st grade. Classroom observations of teacher-child interactions were performed in 2nd grade. The teacher relationship was assessed with the Pianta STRS and with child self-reports, and self-perception was assessed with a Swedish instrument in 3rd grade. Children with externalizing problems had more conflicts with teachers, as well as more negative attitudes in teacher relationships and a less positive self-perception, than did untroubled children. Children with internalizing problems had more dependent and conflictual teacher relationships than did untroubled children. There was little evidence of moderating effects of social competence on the teacher-child relations of children with behavior problems. Observed conflictual teacher interactions to some extent contributed to negative teacher relationships independently of problem status.

In the present study, teacher-child relations and children's self-perception were investigated among 2nd- and 3rd-grade children who were identified as problematic in Grade 1. An important issue was the role of actual teacher-child interactions in children's and teachers' perceptions of the relationship and in the child's self-perception.

In addition to scholastic achievement, school experiences should contribute to a healthy development in terms of harmonious interper-

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This research was supported by a grant from the East Sweden Municipality Research Center.

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Merrill-Palmer Quarterly, April 2004, Vol. 50, No. 2, pp. 111–138.

sonal relations and a positive self-image. Teachers appear to be important social partners, as the quality of the teacher-child relationship has been related to several aspects of short- and long-term school adaptation (e.g., Birch & Ladd, 1998; Goodenow, 1993; Pianta, 1994; 1997; Pianta & Steinberg, 1992). High self-esteem has been associated with school achievement (Gurney, 1987), and low self-esteem may be a risk factor for severe maladjustment, such as mood and eating disorders (Button, Loan, Davies, & Sonuga-Barke, 1997; Cicchetti & Toth, 1995). However, when teachers identify children as posing problems as early as in the first year of school, positive relationships between the children and these important adults as well as a healthy self-image may be compromised.

Children's Behavior Problems and the Teacher-Child Relationship

Externalizing and internalizing problems constitute the two major dimensions of childhood behavior disturbances (see, for example, Garber, Quiggle, Panak, & Dodge, 1991; Serbin, Schwartzman, Moskowitz, & Ledingham, 1991). Externalizing problems (e.g., destructive and aggressive behavior, defiance, temper tantrums, impulsive and hyperactive behavior) have been identified as potent developmental risks that may contribute to school failure and adult criminality (Hymel, Rubin, Rowden, & LeMare, 1990; Ladd & Burgess, 1999; Loeber, 1990). The sequels of internalizing problems (e.g., unhappiness, anxiety, somatic complaints, loneliness) seem somewhat less consistent. Internalizing problems have in some studies predicted no negative outcomes (e.g., Ladd & Burgess, 1999; Serbin et al., 1991), while other studies have found relations to later anxiety disorders (Hymel et al., 1990; Rubin, Hymel, & Mills, 1989).

The last decade has seen the rise of elaborate investigations of the teacher-child relationship. The well-used Pianta teacher-rating scales, for instance, capture three features of the relationship. A close relationship is reflected in warmth and open communication, dependency describes a possessive and "clingy" child, and a conflictual relationship is characterized by discordant interactions and a lack of rapport (Birch & Ladd, 1998; Pianta, 1996). Unfortunately, conflictual aspects of the relationship appear to be the most stable and to have the most negative effects on school adjustment (Birch & Ladd, 1998; Hamre & Pianta, 2001; Pianta, Steinberg, & Rollins, 1995).

Externalizing problems seem to jeopardize the teacher-child relationship to a greater extent than internalizing problems. Several studies have demonstrated that teachers perceive externalizing student behav-

iors as very disturbing, more so than shyness and anxiety in the child (Alton-Lee, Nuthall, & Patrick, 1993; Coleman & Gilliam, 1983; Lovejoy, 1996; Mullen & Wood, 1986). On the other side of the relationship, aggressive children have been found to favor aggressive solutions to problems involving teachers (Trachtenberg & Viken, 1994).

Not surprisingly, problematic relationships may develop. Studies have shown that teachers may reject children with disturbing behavior and respond to them with less support and more punishment than other children receive (Brophy & Evertson, 1981; Little & Hudson, 1998). Externalizing behaviors have been associated with conflictual, dependent, and nonclose relationships, concurrently and prospectively (Birch & Ladd, 1998; Howes, 2000; Howes, Phillipsen, & Peisner-Feinberg, 2000; Ladd & Burgess, 1999; Pianta & Niemitz, 1991). Relatively few studies have included children with internalizing problems, but those that have done so suggest that the consequences may be less serious. Withdrawn children have had less close and more conflictual and dependent teacher relationships in concurrent assessments (Birch & Ladd, 1998; Howes, 2000), but the relations may improve (Ladd & Burgess, 1999). In these studies, the relationship quality has been assessed by teachers, and very little is known about how problem children themselves experience the relationship.

Observational studies of teachers' interactions with problem students also attest to difficulties. Students displaying problems have received more criticism and have suffered deterioration in their interactions with teachers over time, and an antisocial behavioral style in kindergarten children has been associated with negative teacher interactions (Fry, 1983; Ladd, Birch, & Buhs, 1999; Medway, 1979). However, observations of teacher interactions with problematic students are relatively few. Researchers have yet to pose such pertinent questions as the nature of interactions between teachers and children with different kinds of behavior problems and the extent to which interactions may help form the quality of the teacher-child relationship as experienced by teachers and children.

Behavior Problems and Social Competence

However, children with behavior problems may also possess social skills—social competence and behavior problems have only moderate negative associations (e.g., Howes, 2000; Pianta et al., 1995). Two relevant aspects of social competence are *prosocial behavior,* which has been defined as the ability and willingness to help, and *social participation,* which consists of responding to another's social overtures and taking initiatives (e.g., Rydell, Hagekull, & Bohlin, 1997). An impor-

tant issue is whether children with externalizing and those with internalizing problems have different kinds of competence deficits. Another issue regards the protective force of social skills. Longitudinal studies have found reduced risk of unemployment in adulthood among aggressive children who were prosocial (Kokko & Pulkkinen, 2000). On the other hand, social competence deficits seem to further aggravate the peer relations of aggressive children (e.g., Bierman & Wargo, 1995). As for the teacher relationship, a range of positive behaviors has been associated with acceptance by and harmonious relationships with teachers (Howes, 2000; Pianta et al., 1995). Thus, social competence in a problem child could to some extent compensate for the negative behaviors in the teacher's estimation, but this interesting possibility awaits further investigation.

Behavior Problems and Self-Perception

Self-esteem has been conceptualized as the internalization of approval (or disapproval) of significant others (e.g., Harter, 1993). Thus, self-perceptions are formed in interactions with social partners, and children whose behavior problems may reduce positive exchanges with others would seem at risk for developing negative self-perceptions. Somewhat surprisingly, few studies address the self-perceptions of children with behavior problems. In some studies, aggressive children have rated themselves more negatively than average in several respects (Harter, 1993; Cairns & Cairns, 1991). However, aggressive children have also tended to overestimate their competencies (e.g., Hughes, Cavell, & Grossman, 1997; Hymel, Bowker, & Woody, 1993), and links have even been found between high self-esteem and aggressive behavior (Baumeister, Smart, & Boden, 1996). In contrast, children with internalizing problems tend to express more accurate but negative self-evaluations (Hymel et al., 1990; Hymel et al., 1993).

Considering the amount of time children spend in school, teachers should be important for the forming of self-perceptions. Teacher criticism has been associated with children's feelings of stress, helplessness, and negative self-judgments (Heyman, Dweck, & Cain, 1992; Kontos & Wilcox-Herzog, 1997), and teachers' positive evaluations of children's competence and behavior seems important for positive self-perceptions (Cole, 1991). However, few studies have examined the influence of teacher relations on children's self-esteem.

The Present Study

Major aims of the present study were to investigate prospectively teacher-child relations, in terms of classroom interactions and percep-

tions of the relationship, and children's self-perception for children who were identified as having externalizing or internalizing behavior problems in 1st grade, compared to nonproblematic children and to each other. Based on prior research, we expected children with externalizing problems to have more conflicts and fewer positive interactions with teachers, and more conflictual, dependent and negative, or less close relationships as perceived by teachers and children than do either problem-free children or children with internalizing problems. Children with internalizing problems were expected to have more dependent, more conflictual, and less close teacher-rated relationships than nonproblematic children. As for the actual interactions and the children's perceptions of the relationship, we did not know what to expect. Nor did existing knowledge allow hypotheses about problematic children's self-perception. Building on prior research, we also investigated whether problem children's social skills would have any moderating effects on the teacher relationship. We investigated the independent contribution of actual classroom interactions to the quality of the teacher-child relationship, as the teacher and the child saw it, and to children's self-perceptions. Compared with prior studies, the longitudinal design, with classroom interactions assessed at a point between the initial problem identification and assessments of self-perception and the teacher relationship, may give a fuller understanding of mechanisms entailed in the formation of problem children's adaptation.

Methods

Participants

One hundred children living in a mid-sized Swedish city were selected from a sample of 526 children (40% of the city's 1st-grade pupils) to participate in the study and to be followed from first through third grade. Five parents withheld permission for their children to participate in the study. The participating 95 children (52% boys) were from 23 classes in 20 different schools, representing all the city's school districts. At inclusion, the children were 7 to 8 years old (M = 7 years, 6 months; SD = 3 months). Two children moved from the city between 2nd and 3rd grade, and two children moved during 3rd grade. Ten percent of the mothers (7% of the fathers) had compulsory school (9 years of schooling) as their only education, 42% of the mothers (48% of the fathers) had vocational training or had completed secondary school (12 years of schooling), and 48% of the mothers (45% of the fathers) had a college or university degree. Twenty-three elementary school

teachers participated, all with many years of professional experience (M = 21 years, SD = 8). All had formal teacher training, and one-fourth had additional schooling. All but one was female. All but three classes had the same teacher throughout the three years.

Procedure

For an overview of data waves and measures, see Table 1. During the spring term of 1st grade, teachers rated the externalizing and internalizing behavior problems and social competence of 526 students, representing 37 classes and 32 different schools. We assumed that the teachers had become familiar with their students in the 5- to 6-month period that preceded the ratings. The classes were selected through a randomized stratified procedure to guarantee that all types of residential areas would be represented in the city's central and suburban areas.

The selection of participants in the longitudinal study was based on Rutter scale scores (see Measures). Two problem groups and one problem-free group were selected from the sample of 526 children. Because we wanted to construct problem groups that contained decidedly problem children, we used a cutoff of ≥ 3, which on these 5-point scales denotes that the child is seen as evidencing more problems than not. We also wanted to obtain "pure" groups; thus, children with both externalizing and internalizing problems (≥ 3 on both scales) were excluded. The externalizing problem group was defined as children with ≥ 3 on the Externalizing Problem Scale and ≤ 2 on the Internalizing Problem Scale. Twenty boys and 6 girls fulfilled these criteria. The internalizing problem group consisted of 25 children (8 boys and 17 girls) of the 44 children with ≥ 3 on the Internalizing Problem Scale and ≤ 2 on the Externalizing Problem Scale. The problem-free group consisted of 21 boys and 23 girls with ≤ 1.70 on both problem scales, selected from classes with same-sex problem children. Each problem group scored close to 1.5 SD above the mean of the recruitment sample on their respective problem scale. We made the problem-free group larger in order to increase statistical power, as is often done in clinical studies. To ensure the validity of this procedure, the groups differed substantially in problem levels. In the externalizing group, M for externalizing problems was 3.49 (SD = .42), while M for internalizing problems was 1.51 (SD = .43). In the internalizing group, M for internalizing problems was 3.53 (SD = .44) and for externalizing problems M was 1.28 (SD = .31). In the problem-free group, M = 1.13/1.14 on the two problem scales (SD = .21 for both scales). The problems were very stable across two years, $r(91)$ = .85 and .68, $p < .001$, for externalizing

Table 1. Descriptive Statistics of All Variables (N = 93–95)

Variables	*Data wave*	α	*M (SD)*	*Range*
Behavior problems	First grade			
Externalizing problems		.95	1.82 (1.08)	1–5
Internalizing problems		.89	1.40 (1.06)	1–5
Social competence	First grade			
Prosocial orientation		.94	3.33 (0.86)	1–5
Social initiative		.91	3.77 (1.02)	1–5
Observed peer behavior[a]	Second grade			
Aggressive		.69	0.00 (0.78)	
Withdrawn/uncertain		.77	0.00 (0.90)	
Teacher-child relations				
Observed interactions[a]	Second grade			
Disruptive behavior-corrections		.82	0.00 (0.61)	
Mutual anger		.76	–0.01 (0.61)	
Positive interactions		.65	0.00 (0.65)	
Child report	Third grade	.86	1.60 (0.53)	1–5
Teacher report	Third grade			
Conflicts		.83	1.63 (0.65)	1–5
Dependency		.64	1.99 (0.76)	1–5
Closeness		.79	4.10 (0.50)	1–5
Child's self-perception	Third grade	.73	17.7 (6.93)	–26–26

[a] No theoretical range.

and internalizing problems (the scales had alpha values of .92 and .76 in the Grade 3 ratings), respectively. As a further validity check, the externalizing problem group was compared to a small group of 9-year-olds, 10 boys and 2 girls, who were enrolled in a special school for problem children. Eight of these children were diagnosed with comorbid ADHD and conduct disorder by the school psychiatrist. The children were assessed with the Rutter teacher scales as part of an undergraduate project within our research group and scored approximately the same, indeed slightly lower, $M = 3.17$, $SD = 1.03$, than the present externalizing problem group. Thus, although the present sample was nonclinical, the children were rather extreme in problem levels.

During the spring term of 2nd grade, teacher and child behaviors and each child's behavior toward peers were observed in natural classroom settings. The first author (L. H.) developed the observational protocol after pilot observations in other classrooms with same aged

children. During the pilot observations, all child and teacher behaviors were noted as they occurred. The codes in the observational protocol were developed from these behaviors, resulting in a recording sheet with 31 codes for child behaviors and 29 codes for teacher behaviors (see Measures). One sheet was used for each 5-minute observation period. Each code was defined by descriptions of specific behaviors. The first author made all the observations, after several training sessions in classes outside the study. Each child was observed for 10 to 20 5-minute periods (M = 13 periods) of ordinary classroom activities during 3 to 5 (M = 4 days) different school days. The teacher did not know who was the target child, and the observer was blind to the classification (problematic or not) of the child. The target children in each class were scheduled and observed in a predetermined random order. During each 5-minute observation, the observer focused her attention on the target child, discreetly shifting her position in the room. Every 7.5 seconds during each 5-minute observational period, the child's and the teacher's ongoing behaviors were recorded in the appropriate slot on the recording sheet. The intervals were marked by a beep in the observer's ear from a tape recorder. The observations thus captured simultaneous ongoing child and teacher behaviors. The children were used to having visitors in the classroom (e.g., student teachers and remedial teachers), so they paid little attention to the observer. To establish reliability, a second observer, trained in the coding system to 90% agreement on another sample, made parallel independent observations on 29 children. The parallel observations covered 29% of the 5-minute observation periods for these children and more than 8% of the 1,250 observation periods. The percentage of reliability coding is somewhat low, but these data represented almost a third of the children in the sample. Intercoder agreement was calculated in terms of correlations between the two observers for each scale that was derived from the observations (see Measures).

In the fall of 3rd grade, the children were interviewed individually about their self-perception and their relationship with their teacher, and the teachers answered questionnaires about their perceptions of each child's relationship with them. Teacher ratings also were collected for the two children who moved during grade three. In the spring of 3rd grade, teachers again rated the children in terms of behavior problems, and information about parental education was collected.

Measures

Behavior problems and social competence. Items measuring behavior problems and social competence used 5-point response scales with scale end-points stated for each item (1 = "doesn't apply at all"; 5 =

"applies very well"). The middle steps were defined in the general instruction to the respondents. Higher scores indicated more problems and higher social competence. Scales were constructed as the mean of items. For an overview of measures, see Table 1.

To measure children's behavior problems, we used the teacher version of the Children's Behavior Questionnaire (CBQ; Rutter, Tizard, & Whitmore, 1970). The scale measuring externalizing problems had nine items capturing acting-out behaviors (e.g., "is often disobedient"), as well as restlessness and inattention (e.g., "very restless"). The scale measuring internalizing problems had five items (e.g., "often worried, worries about many things").

Social competence was measured with the teacher version of the Social Competence Inventory (SCI; Rydell et al., 1997). The SCI captures two aspects of social competence: prosocial orientation and social initiative derived through extensive factor analysis (Rydell et al., 1997). The Prosocial Orientation Scale has 17 items (e.g., "gives compliments to peers," "shows generosity towards peers"). The Social Initiative Scale has 8 items (e.g., "often suggests activities and games to play with peers").

Behavior toward peers. Twelve peer behavior codes from the classroom observations (e.g., "fussing, teasing," "rejects peer's contact attempt," "friendly touches"; see below for a description of the observations) were factor analyzed, using varimax rotation (all factor correlations were < .25). Three meaningful factors were identified and scales were constructed as the mean of codes. Two of these were used in the present context. The Aggressive Peer Behavior Scale contained three codes capturing physical and verbal hostility (see Table 2). The Withdrawn/Uncertain Peer Behavior Scale contained two codes. Agreement between independent observers was $r(29) = .89$ and .88 for the two scales.

The teacher-child relationship. The teacher-child relationship was assessed using three separate measures at two points in time (see Procedure). First, the relationship was assessed through observations of teacher-child interactions. Of the 31 codes for child behaviors, 12 codes captured the above-mentioned behaviors toward peers. The other 19 codes captured child behavior in class and behaviors toward the teacher. Teacher behavior had 29 codes, 24 of these capturing behaviors toward the target child. Five codes captured behaviors toward other children or the whole class and were excluded from the present analyses. The mean frequency for each code across all observation periods was computed. As a basis for scale construction, the frequencies were standardized, and a factor analysis with oblique rotation was

Table 2. Frequencies of Child and Teacher Behaviors (N = 95)

Behaviors	*M (SD)*
Aggressive peer behaviors	
Irritated remarks to peer	0.10 (.14)
Angry remarks to peer	0.02 (.09)
Pushes/hits peer	0.02 (.08)
Withdrawn/uncertain behavior	
Unspecific remarks to peer	0.16 (.30)
Looks sad	0.07 (.19)
Disruptive behavior—Correction interactions	
Child: Off-task behavior	2.08 (2.06)
Conversation with peer	1.16 (1.34)
Obeys teacher's directives	0.07 (.10)
Motor restlessness	0.36 (.69)
Teacher: Negotiates/pleads with child	0.03 (.08)
Ignores irregular behavior	0.03 (.09)
Gives commands (e.g., "Shut the door")	0.05 (.07)
Admonishes child (e.g., "No fooling around")	0.10 (.17)
Makes critical remarks	0.16 (.32)
Mutual anger interactions	
Child: Disobeys teacher	0.02 (.06)
Disruptive talk	0.38 (.73)
Irritated remarks to teacher	0.02 (.06)
Angry remarks to teacher	0.00 (.01)
Teacher: Restrains child physically	0.00 (.02)
Irritated remarks to child	0.00 (.07)
Angry remarks to child	0.01 (.04)
Dismisses child	0.01 (.02)
Positive interactions	
Child: Makes requests, asks for help	0.94 (.74)
Positive remarks to teacher	0.21 (.23)
Teacher: Encourages or praises child	0.27 (.23)
Instructs, helps, attends to child	1.79 (1.42)
Neutral remarks to child	0.16 (.14)

performed on 34 codes reflecting child behaviors in class and child-to-teacher and teacher-to-child behaviors. The number of codes was reduced because similar codes were aggregated (e.g., 3 different codes captured encouragement from the teacher), and 4 codes were excluded because the behaviors had occurred only once or twice or not at all (e.g., physical punishment). We used an oblique rotation because two of the three factor correlations were > .30, indicating that the behavioral dimensions captured in these observations would be correlated. Three meaningful factors were identified and were used to construct scales reflecting teacher-child interactions as the mean of codes. The Disruptive Behavior-Correction Scale comprised 10 codes, the Mutual Anger Scale contained 8 codes, and the Positive Interaction Scale consisted of 5 codes. Interobserver agreement was between $r = .94$ and $r = .98$ for the three interaction scales.

The mean frequencies (nonstandardized) of the codes in each scale are presented in Table 2. The negative behaviors had very low mean frequencies, in some instances zero, but they did vary in the sample. Two very low-frequent aggressive peer behavior codes and 7 very low-frequent codes in the Mutual Anger Scale (see Table 2) were found in an average of 7% of the children and to highly varying degrees. These codes were retained because they denote uncommon hostile or aggressive behaviors that might be highly salient in terms of poor outcomes.

Second, the child's perception of his or her relationship with the teacher was assessed with seven newly constructed self-report items. The response format was a 5-point scale, ranging from 1 = "very happy" to 5 = "very angry" (e.g., "When I meet my teacher I feel. . . ." or "My teacher often is. . . .") or from 1 = "very much" to 5 = "not at all" (e.g., "I think my teacher likes me. . . ." or "I like my teacher. . . ."). Each endpoint and the middle response point were illustrated with drawings of a happy, neutral, or angry face, and the meaning of each face was explained to the child. The scale was computed as the mean of items. Low values denote a positive relationship with the teacher. The scale demonstrated good internal consistency (see Table 1) and was related to teacher ratings of conflicts: $r(93) = .21$, $p < .05$.

Third, the teacher's perception of each child's relationship with her or him was measured with a Swedish translation and adaptation of the Student-Teacher Relationship Scale (STRS; Pianta, 1996), consisting of 28 items. A 5-point response format was used, from 1 = "don't agree at all" to 5 = "totally agree." The items are designed to tap the dimen-

sions of warmth and security, anger and dependence, and anxiety and insecurity. The original factor solution with three factors (Pianta, 1996) was confirmed in the present sample. Scales were constructed as the mean of items. The Conflict Scale consisted of 12 items (e.g., "This child and I always seem to be struggling with each other"), the Dependency Scale had 5 items (e.g., "This child is overly dependent on me"), and the Closeness Scale comprised 11 items (e.g., "I share an affectionate, warm relationship with this child").

Self-perception. The child's self-perception was measured with a Swedish 32-item self-report instrument for elementary school children ("How I am"; Ouvinen-Birgerstam, 1985). The instrument has shown good psychometric properties, split-half reliability being >.80 (Ouvinen-Birgerstam, 1985), and is extensively used in clinical settings and in Swedish research. The child is instructed to evaluate each statement according to whether it describes him or her, with a Yes /No response format. The measure contains positively and negatively worded items. Scale scores are computed as the sum of the endorsed items. The instrument has five subscales, which have been tested in factor analyses on the original sample. The Physical Well-being Scale captures self-evaluations of one's appearance and health (e.g., "I have a nice face," "I am often sick"—Reversed scoring). The Achievement Scale captures how the child thinks that he or she is doing in school (e.g., "I am good at arts," "I am bad at mathematics"—Reversed scoring). Psychological Well-being captures the child's predominant mood (e.g., "I easily get angry"—Reversed scoring; "I am almost always happy"). Social Relations captures the child's view of his or her peer and teacher relations (e.g., "I like my classmates," "My teacher is nice to me," "I often feel alone"—Reversed scoring). A self-perception score was computed as the sum of the four subscale scores. The fifth scale captures the relationship with parents and was not used in the present context.

Table 3 presents correlations between all variables. The correlations seem to support the validity of the measures. As one would expect, there were highly significant relations between several of the teacher-rated variables, between teacher-child interactions and problems, and child competencies and child reports of relationship quality, and between children's self-perception and most other variables.

Statistical analyses. For all analyses, the SAS computer software was used. ANOVAs were performed with the General Linear Model (GLM) procedure that controls for unequal group sizes.

Table 3. Correlations Between All Variables

Variables	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Problem behaviour												
1. Externalizing problems	—											
2. Internalizing problems	–.15	—										
Social competence												
3. Prosocial orientation	–.42***	–.38***	—									
4. Social initiative	.26*	–.76***	.48***	—								
Teacher-child interactions												
5. Disruptive behavior-corrections	.57***	–.07	–.29**	.05	—							
6. Mutual anger	.40***	.03	–.30**	–.03	.54***	—						
7. Positive interactions	.28***	–.01	–.16	.11	.19	.16*	—					
Teacher-child relationship												
8. Child report	.21*	.04	.03	.05	.24*	.18	–.03	—				
9. Conflicts	.66***	.11	–.45***	.07	.38***	.36***	.13	.21*	—			
10. Dependency	.40***	.30**	–.42***	–.15	.29**	.51***	.11	.11	.57***	—		
11. Closeness	–.05	–.18	.30**	.26**	.00	.00	.19	–.16	–.30**	–.06	—	
12. Child's self-perception	–.50***	–.01	.24*	–.03	–.43***	–.33**	–.22*	–.50***	–.41***	–.31**	.09	—

*$p < .05$. **$p < .01$. ***$p < .001$. N = 93–95

Results

Validity of Behavior Problems and Gender Differences

As a test of the validity of the teacher ratings, relations between the ratings of externalizing and internalizing behavior problems and the two peer behavior scales (see Methods) from classroom observations one year later were computed. Externalizing problems were related to aggressive peer behavior [$r(95) = .20$, $p = .05$] but not to withdrawn or uncertain behavior [$r(95) = .16$, ns] and internalizing problems were related to withdrawn or uncertain peer behavior [$r(95) = .24$, $p < .05$] but not to aggressive peer behavior [$r(95) = .00$].

There were more boys than girls in the externalizing problem group and more girls than boys in the internalizing problem group (see Methods). No group differences were found in paternal education [$\chi^2(4, N = 81) = 4.51$, ns]. Girls were higher than boys in prosocial orientation and had more positive self-perceptions [$t(93) = –2.52$ and $t(80.7) = –.2.67$, $p < .01$], but girls were lower than boys in disruptive behavior-correction and mutual anger interactions with teacher [$t(63.6) = 4.87$ and $t(57.1) = 3.00$, $p < .001$]. Thus, all further analyses were controlled for gender.

Behavior Problems and Teacher-Child Relations

To test the assumption that children with externalizing problems should have more negative (disruptive behavior-corrections and mutual anger) and fewer positive teacher interactions than the two other groups, and more conflictual, dependent and negative and less close teacher relationships, GLM ANOVAs with planned contrasts between all three groups were performed. These analyses also tested differences between the nonproblem and internalizing problem groups. Children with externalizing problems had more disruptive behavior-corrections and more mutual anger interactions than the nonproblematic group (see Table 4, top), and in the case of disruptive behavior-corrections, they also differed from the internalizing problem group. Contrary to expectations, they also had more positive teacher interactions than the nonproblem children. The children with internalizing problems did not differ from the nonproblem group on any scale. To further pursue the issue of teacher interactions, the disruptive behavior-corrections, mutual anger, and positive interactions were summed and averaged across observational periods, and group differences in total number of interactions were analyzed, controlling for gender. The externalizing problem group had more interactions ($t = 4.34$, $p < .001$ and $t = 2.37$, $p < .05$) than the other two groups. However, analyses of the profile of the interactions, after performing arc sine transformations of the pro-

Table 4. Least Square Means and Standard Errors for Teacher and Child Variables, and Planned Comparisons between Problem-free Children (PF, N = 44), Children with Internalizing (INT, N = 23–25), and Children with Externalizing (EXT, N = 26) Behavior Problems.

	PF	*INT*	*EXT*	*EXT≠PF*	*INT≠PF*	*EXT≠INT*
Variable	M (SE)	M (SE)	M (SE)	t	t	t
Teacher-Child Interactions						
Disruptive behavior-corrections	–0.20 (.08)	–0.08 (.10)	0.42 (.10)	4.79***	0.98	3.29**
Mutual anger	–0.14 (.09)	–0.04 (.12)	0.25 (.12)	2.69**	0.71	1.71
Positive interactions	–0.11 (.10)	0.06 (.13)	0.24 (.13)	2.18*	0.32	1.61
Teacher-Child Relationship						
Child report	1.51 (.08)	1.52 (.11)	1.82 (.11)	2.35*	0.00	1.90
Conflicts	1.25 (.08)	1.61 (.10)	2.29 (.10)	8.05***	2.78**	4.57 ***
Closeness	4.19 (.08)	3.95 (.10)	4.12 (.10)	0.60	1.92*[a]	1.12
Dependency	1.63 (.10)	2.26 (.14)	2.33 (.14)	4.06***	3.71***	0.35
Child's self-perception	20.31 (.91)	18.40 (1.30)	12.62 (1.24)	4.98***	1.21	3.11**

* $p < .05$; ** $p < .01$; *** $p < .001$; [a] One-tailed.

portional variables (e.g., Kirk, 1968), revealed one group difference. The externalizing problem group had a higher proportion of mutual anger interactions than the nonproblem group ($t = 2.47$, $p < .05$).

Children with externalizing problems had a significantly less positive picture of the teacher relationship than did the nonproblem group, but they did not differ from the children with internalizing problems (see Table 4, middle). With regard to conflicts and dependency, as the teacher saw it, both problem groups had a more negative relationship than did the nonproblem group. The children with externalizing problems also had more teacher conflicts than the children with internalizing problems. In contrast to expectations, the children with externalizing problems did not differ from the nonproblem group in closeness. The children with internalizing problems were the ones who had the lowest scores, significantly lower than the nonproblem group.

Social competence as moderator. Next, we wanted to investigate whether the associations between problem status and child and teacher perceptions of the teacher-child relationship were moderated by the child's social competence. Teacher-child interactions were considered as more fluctuating expressions of the relations and were not analyzed in this respect. Children with externalizing problems [$F(2) = 32.2$, $p < .001$] and children with internalizing problems [$F(2) = 26.5$, $p < .001$] had lower levels of prosocial orientation than did problem-free children. Children with internalizing problems scored lower than the problem free group in social initiative [$F(2) = 94.3$, $p < .001$]. Moderating effects were studied following Baron and Kenny (1986). Regression analyses were performed with each problem group versus the nonproblem group and one social competence aspect at a time. Externalizing or internalizing problem status (Yes/No), the standardized prosocial orientation score or the standardized social initiative score and the interaction term (group status $\times$ prosocial orientation or group status $\times$ social initiative) were entered as predictors. Gender was included as a control term. Significant interaction effects were plotted by the procedure described by Cohen and Cohen (1983).

Analyses with each of the two problem groups were performed on the standardized Conflict and Dependency scales. Analyses with the externalizing problem group were performed with prosocial orientation as a predictor and analyses with the internalizing problem group were conducted with each of the competence aspects. For the child-reported relationship variable, the model with externalizing problem group, prosocial orientation, and the interaction term as predictors was not significant (Adj $R^2 = .03$). As seen in Table 5, social competence did not predict the teacher relationship. Further, only one inter-

Table 5. Analyses in Which Teacher-Child Relationship was Regressed on Behavior Problems, Social Competence and the Behavior Problems by Social Competence Interaction After Controlling for Gender

Dependent variable [a]	*AdjR*^{2}	*df*	*F*	β
Conflicts	.53	4,65	20.64***	
Externalizing *vs* no problems				.64***
Prosocial orientation				.05
Interaction term				–.25
Conflicts	.17	4,64	4.41**	
Internalizing *vs* no problems				.37**
Prosocial orientation				.07
Interaction term				–.24
Conflicts	.28	4,64	7.74***	
Internalizing *vs* no problems				.88***
Social initiative				.06
Interaction term				.54*
Dependency	.32	4,65	9.01***	
Externalizing *vs* no problems				.34**
Prosocial orientation				–.02
Interaction term				–.27
Dependency	.19	4,64	4.95**	
Internalizing *vs* no problems				.43**
Prosocial orientation				–.02
Interaction term				–.09
Dependency	.19	4,64	5.10**	
Internalizing *vs* no problems				.59**
Social initiative				–.07
Interaction term				.23

* $p < .05$. ** $p < .01$. *** $p < .001$.

[a] Terms for gender are not reported in Table. No gender term was significant, all βs $< .21$, ns.

action term was significant; it is depicted in Figure 1. For children with internalizing problems, high social initiative scores were associated with higher levels of conflicts, compared with those who were low in social initiative, while the reverse was true for children in the nonproblem group.

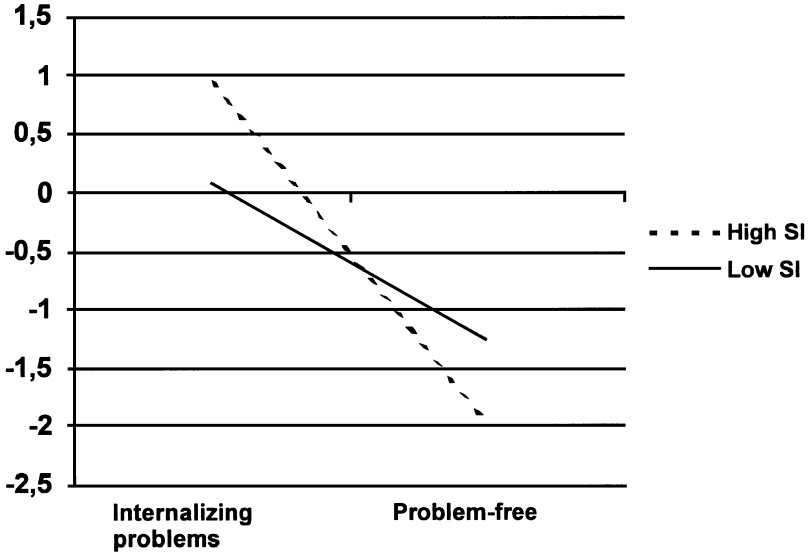

Figure 1.1. Moderating effect of social initiative on conflicted teacher-child relationships for children with internalizing behavior problems.

Observed teacher-child interactions and child and teacher perceptions of the relationship. To investigate whether the quality of the actual interactions with teachers had any independent effects on child and teacher perceptions of the relationship above that of problem behaviors, hierarchical regression analyses were performed. The child-report scale and the Conflict and Dependency scales were used as dependent variables in three separate analyses (closeness was not associated with behavior problems; see Table 3). Gender was entered in a first step, the continuous problem ratings were entered in a second step, and the teacher-child interactions with significant bivariate relations with the relationship scale in question (see Table 3) were entered in a third step. Children with internalizing problems did not have more negative perceptions of the teacher relationship than did others; thus, the internalizing problem scale was not used in analyses on this variable. As seen in Table 6, the regressions again demonstrated consistent and strong associations, especially between externalizing problems and troubled teacher relationships. The teacher interactions contributed independently to the relationship in one case. Mutual anger interactions had a significant effect on the level of dependency. No teacher-child interactions contributed significantly to the child's own evaluation of the relationship. However, assuming that children might evaluate interpersonal relationships according to how others treat them more than according to how they

Table 6. Analyses in Which the Teacher-Child Relationship and Child's Self-perception Were Separately Regressed on Child Behavior Problems and Teacher-Child Interactions, After Controlling for Gender

Dependent variable	*Final* R^2	*df*	*F*	ΔR^2	β
Child report	.09	3,92	2.83*		
Step 1: Gender				.00	.01
Step 2: Externalizing problems				.06	.25*
Step 3: Disruptive behavior-corrections				.03	.23
Conflicts	.50	5,94	19.87***		
Step1: Gender				.03	–.16
Step 2: Behavior problems				.49***	
Externalizing problems					.75***
Internalizing problems					.17*
Step 3: Teacher-child interactions				.01	
Disruptive behavior-corrections					.00
Mutual anger					.10
Dependency	.43	5,94	13.51***		
Step1: Gender				.04	–.20*
Step 2: Behavior problems				.27***	
Externalizing problems					.42***
Internalizing problems					.38***
Step 3: Teacher-child interactions				.12***	
Disruptive behavior-corrections					–.15
Mutual anger					.42***
Self-perception	.29	5,92	6.94***		
Step 1: Gender				.07	.27**
Step 2: Externalizing problems				.18	–.46***
Step 3: Teacher-child interactions				.04	
Disruptive behavior-corrections					–.13
Mutual anger					–.09
Positive interactions					–.08

Note: $N = 93–95$.
* $p < .05$. ** $p < .01$. *** $p < .001$.

think of their own role, an additional analysis was performed using the negative teacher behaviors from the Mutual Anger Scale [physical restraints, irritation, anger, and critical remarks toward child ($\alpha = .60$; interobserver agreement $r(29) = 1.0$)] and externalizing problems as predictors. In this analysis, negative teacher behavior contributed to the child's evaluation of the relationship as more negative ($\beta = .27$, $p < .01$).

Behavior Problems and Children's Self-Perception

The self-perceptions of children with externalizing problems, internalizing problems, and nonproblem children were analyzed in GLM ANOVAs. As seen in Table 4 (bottom), the children with externalizing problems had much more negative self-perceptions than the children in the two other groups. The children with internalizing problems did not score lower than the nonproblem group. Self-perception was negatively related to all three teacher-child interaction scales (see Table 3). A hierarchical regression analysis was undertaken to investigate whether the teacher-child interactions had any significant effects on the child's self-perception, taking the child's level of externalizing problem behavior into account. Children with internalizing problems did not have negative self-perception. As Table 6 (bottom) shows, the interaction scales did not contribute significantly. However, when this analysis was repeated with the scale for negative teacher behaviors (see above) replacing the teacher-child interaction scales, negative teacher behaviors made a significant contribution ($\beta = -.20$, $p < .05$).

Discussion

In this study, children with externalizing problems participated in conflicted and angry interactions with their teachers more often, they had more negative teacher relations according to teacher and self reports, and they had less positive self-perceptions than children without problems. In several of these aspects, they also differed from children with internalizing problems. Children with internalizing problems had higher levels of conflict and of dependent teacher relations than the nonproblem group. There was one moderating effect of social skills on teacher relations, in that high social initiative raised the level of teacher conflicts for children with internalizing problems. Teacher interactions characterized by mutual anger contributed independently to more dependent teacher relationships.

Children with Externalizing Problems

Our results agree with earlier studies in that children with externalizing problems appear vulnerable when it comes to developing positive

teacher relationships and self-perceptions (e.g., Ladd et al., 1999; Ladd & Burgess, 1999; Hamre & Pianta, 2001; Hymel et al., 1990; Rubin, Hymel, & Mills, 1989). The present study complemented prior knowledge by demonstrating that the children themselves also evaluated the relationship with their teacher as more negative, compared to the nonproblem group.

A particularly striking feature of the results is the conflict-laden teacher-child interactions of the disruptive children one year after problem identification. There may, of course, be a self-fulfilling prophecy—teachers were probably more likely to get into conflicts with children they had identified as disruptive. However, the negative interaction patterns in the classroom seemed to worsen the situation to some extent. Also, negative behaviors from teachers were associated with a more negative relationship in the eyes of the child. Unfortunately, the positive interaction patterns were not related to the teacher-child relationship, perhaps because they were less frequent than conflicting interactions. The lesser impact of positive than of negative relations, however, is in line with prior studies of teacher-child relationships and long-term adjustment (Birch & Ladd, 1997; Ladd & Burgess, 1999; Pianta & Niemitz, 1991; Pianta et al., 1995; Sroufe & Rutter, 1984). Still, the disruptive children in our study received a good deal of praise and encouragement. It is noticeable that the relationships were evaluated by teachers as more conflicted and more dependent, but not less close than relationships with problem-free children—an ambivalent, perhaps a kind of "love-hate" relationship, may have developed. This could explain why the children did not report the relationship as disastrous, the group mean being below 2 on a 5-point scale of bad teacher relations. Another conclusion is that the disruptive children got more attention than unproblematic children, which agrees with a study by Beaman and Wheldall (2000). These authors concluded that the appropriate behavior of well-behaved children apparently was maintained by intrinsic interest in work or satisfaction of achievement rather than by teacher attention. In our study, we observed that the problem-free children also seemed to continue to behave well, in spite of little attention from their teachers.

The disruptive children had very negative self-perceptions, compared to the other two groups; thus, prior reports of high self-esteem among disruptive children (e.g., Hughes et al., 1997; Hymel et al., 1993) were not supported. Interactions with the teacher did not contribute to the variation in self-perception, but negative behaviors from teachers did. As was the case with the child's perception of the teacher relationship, the children may have reacted to teacher behaviors that signal hostility. Still, aspects in the children's lives other than teacher relations

probably affected self-esteem, such as poor peer relations. It has repeatedly been demonstrated that children with externalizing problems are rejected by or are less attractive to peers than are other children, and poor peer status has in some studies been related to less positive self-perceptions (e.g., Parker & Asher, 1987; Hymel et al., 1990; Rubin et al., 1989). The disruptive children had high levels of aggressive behaviors with peers in the observations (see Methods), which probably were negative for peer acceptance. In sum, these children saw themselves in a less positive light than others in most domains, and their relations with teachers were ambivalent at best. The basis for a future successful school career does not appear particularly solid.

Children with Internalizing Problems

In contrast to the disruptive group, children with internalizing problems did rather well. They did not deviate from the unproblematic group in interaction patterns, they did not rate their teacher relationships as more negative, and, perhaps most encouraging, their self-perception was apparently not affected by their problem status in first grade. However, they did relate in more conflicted and dependent manners toward teachers than did the problem-free group, although at lower levels than the disruptive children. These results are in accord with earlier studies (e.g., Birch & Ladd, 1998). Hypothetically, the dependent style is a reflection of their anxiety and uncertainty.

Thus, internalizing problems in young children need not be devastating across some years (e.g., Serbin et al., 1991). One reason could be that such problems may not be particularly stable (e.g., Ladd & Burgess, 1999). However, in this study the stability was considerable, $r(91) = .68$ across two years. Possibly, studies that have found a negative outcome may not have excluded children with comorbid disruptive and internalizing problems. Children who are both aggressive and withdrawn have been found to have particularly low levels of adaptation in several respects (Ladd & Burgess, 1999). In this study, we screened to exclude comorbid children. Also, children in the internalizing group go unnoticed—because they are unobtrusive, they get little attention, and thus are difficult to evaluate for teachers. Lower levels of closeness as well as the observations of peer behavior suggest an element of withdrawal. The harmonious interactions with teachers could also have contributed to the positive outcome. This is all speculation, but the heart of the matter is that children who appeared lonely, worried, or sad in 1st grade did not deviate very much from nonproblem children two years later.

Social Competence—A Moderating Variable?

Social skills deficits seem to differ somewhat between groups of children with internalizing and externalizing problems. Both problem groups were lower than the problem-free group in prosocial orientation, but only the internalizing group had lower levels of social initiative. Possibly, this group's lower levels of prosocial behavior is associated with their lower social visibility; they may possess prosocial skills but not display them very often. There was only one significant moderating effect of social competence, in that high social initiative raised the level of teacher conflicts for children with internalizing problems. This unexpected result is contrary to the idea of social skills as a buffer and warrants further studies of the social behavior of children with internalizing problems. There were a few insignificant effects ($p < .10$) of prosocial behavior on conflicts and dependency for children with externalizing problems, but those were in the expected direction. Prosocial behavior did, to a small extent, help the teacher relations of problematic children, but these skills had little power compared to the problematic behavior per se in forming the teacher-child relationship. Thus, social skills in problem children may have differential effects on relations, depending both on the kind of problem and on the competence aspect.

Methodological Considerations

One strength of the design is the use of several informants, such as teacher questionnaires, classroom observations, and child self-reports. Further, the observations included a broad set of negative and positive classroom interactions; this also seems to set the design apart from earlier research (Beaman & Wheldall, 2000). However, we did not, for logistical reasons (e.g., not wanting to impose on teachers excessively; the impracticality of repeating classroom observations), have data on all measures at each assessment, precluding fine-grained time-series analyses.

All analyses were statistically controlled for gender, which underscores the robustness of the results. It should, however, be pointed out that this procedure does not completely take care of gender differences. The estimates were probably more reliable for boys in the externalizing group and for girls in the internalizing group, but this shortcoming is not easily avoided in research on behavior problems. It should further be stressed that children in the problem groups had marked problems, with a mean of 3.5 on the 5-point problem scales. With regard to the externalizing group, the problem levels were similar to those found in a

group of children that were identified as very difficult by the school system. Thus, the problems of the children in the study were probably not trivial, and although from a normal sample, the results should have a certain clinical significance.

Howes (2000) points out that teacher perceptions of children's social adjustment are not independent of their perceptions of their relationships with the children. In this study teachers rated problems, competence, and the teacher-child relationship. Thus, when teachers rate their relationship to students, social desirability effects as well as method variance must be considered. However, two years elapsed between ratings of social functioning and of the teacher-child relationship, and the quality of the teacher relationship was confirmed by the children themselves and in observed interactions.

Finally, teacher-child relationships, self-esteem, and children's problems are part of complex processes. The direction of influences is difficult to establish—for example, whether the child's negative self-perception is affected by or affects teacher-child relationships. Probably they are mutually dependent. Further studies of interactions in terms of ongoing processes should deepen the understanding of how these processes influence development, especially for children with behavior problems. For instance, it has been suggested that teacher attention may serve to maintain high rates of inappropriate classroom behavior (Beaman & Wheldall, 2000).

Conclusions

Once more, research has demonstrated that children with externalizing behavior problems constitute a risk group in school. Conflicts and negative teacher behavior in daily interactions seem to augment maladaptation, while corrections from teachers do not appear destructive. Thus, a major goal for school mental health services should be to reduce hostility between teachers and children. Further, although we found weak and somewhat divergent effects, at least the prosocial aspect of social skills may be a protective factor for problem children; thus, it is important to help children develop their social competence. Children with internalizing problems are an intriguing group. In our study, these children had a heightened risk of nonoptimal teacher relations as the teacher saw it, but in all other aspects we studied, they adapted well. Further longitudinal studies of internalizing problems are needed in search of the health-promoting factors that may be at work. Likewise, longitudinal studies of disruptive children could cast light on what positive factors, besides prosocial skills, there may be to build on, to help steer them away from unhealthy development.

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