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Shyness, teacher–child relationships, and socio-emotional adjustment in grade 1

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Abstract

The goal of the present study was to explore the moderating role of teacher–child relationships in the relation between shyness and socio-emotional adjustment in early elementary school. Participants were $n = 169$ grade 1 children ($M_{age} = 76.93$ mos, $SD = 3.86$). Shortly after the start of the school year (September), parents completed an assessment of their child's shyness. In January/February teachers completed the *Student–Teacher Relationship Scale* (STRS; Pianta, 2001). At the end of the school year (May/June), child adjustment was assessed by both child and teacher reports. Among the results, shyness and negative teacher–child relationships (i.e., dependent, conflictual) were related to socio-emotional difficulties, whereas close teacher–child relationships were associated with indices of positive adjustment. However, several interaction effects were also observed, with teacher–child relationships moderating the relations between shyness and adjustment. The pattern of results suggested a potential protective role for teacher–child relationships in shy children's adjustment. Results are discussed in terms of the contributions of teachers to young shy children's school adjustment.

Keywords

shyness, social adjustment, teachers

Shy children are wary and anxious when faced with novel social situations and the perception of social-evaluation (Coplan & Armer, 2007). Moreover, although shy children may actually desire social contact with peers, this social approach motivation is simultaneously inhibited by social fear and anxiety (Coplan, Prakash, O'Neil, & Armer, 2004). This "approach–avoidance conflict" may be particularly evident in the school setting, which appears to be a particularly stressful context for young shy children (Coplan & Arbeau, 2008). Notwithstanding, not all shy children have problems at school (Rubin & Coplan, 2004). The goal of the present study was to explore the potential moderating role of teacher–child relationships in the socio-emotional adjustment of shy children in early elementary school.

Shyness in early childhood

In early education settings, shy children speak less, make fewer social initiations to peers, and display poorer social skills (e.g., Asendorpf & Meier, 1993; Bohlin, Hagekull, & Andersson, 2005; Coplan et al., 2004; Evans, 2001; Rimm-Kaufman & Kagan, 2005). During opportunities for peer interaction, young shy children tend to display *reticent* behavior, which includes watching other children playing but not joining in (Coplan et al., 2004; Coplan, Rubin, Fox, Calkins, & Stewart, 1994). However, although some researchers have focused on shy children's experiences in novel contexts, there is growing evidence to suggest that young shy children also experience difficulties in *familiar* social contexts (Coplan, DeBow, Schneider, & Graham, 2009).

Coplan and Arbeau (2008) cite the presence of a large group of (initially unfamiliar) peers, increased academic demands (particularly with regards to verbal participation), and a high child-to-staff ratio as components of the early childhood school environment that may exacerbate shy children's feelings of social fear and self-consciousness. Indeed, there is increasing empirical support for the notion that the transition to school is particularly problematic for shy children—even after the environment becomes more familiar (Coplan, Arbeau, & Armer, 2008; Evans, 2001; Henderson & Fox, 1998; Rimm-Kaufman & Kagan, 2005). Thus, it should not be surprising that even in early childhood, shyness is associated with a host of negative adjustment outcomes, including internalizing problems (e.g., low self-esteem, loneliness, anxiety), peer difficulties (exclusion, rejection), and poor school adjustment (academic difficulties, school avoidance) (e.g., Coplan, Closson, & Arbeau, 2007; Coplan et al., 2004, 2008; Coplan, Gavinsky-Molina, Lagace-Seguin, & Wichmann, 2001; Gazelle & Ladd, 2003).

Interestingly, there is also growing evidence to suggest that being shy is particularly problematic for boys. For example, mothers tend to respond more negatively towards shy boys than shy girls (e.g., Simpson & Stevenson-Hinde, 1985). Moreover, through childhood and into adolescence, shy boys appear to be at greater risk than shy girls for maladaptive outcomes (e.g., Coplan et al., 2004; Stevenson-Hinde & Glover, 1996). It may be that shyness is less socially acceptable for boys than for girls (Rubin & Coplan, 2004).

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Risk and protective factors

Notwithstanding the literature linking shyness with early socio-emotional difficulties, it is also clearly the case that not all shy children suffer adjustment problems. In this regard, researchers have begun to explore factors that may ameliorate or exacerbate the socio-emotional adjustment of shy children. A number of negative moderators (i.e., exacerbating process) and positive moderators (i.e., buffering process) have recently been identified in the links between shyness and school adjustment.

In terms of individual child characteristics, Coplan and colleagues (e.g., Coplan & Armer, 2005; Coplan & Weeks, 2009) have reported evidence of a protective role for language skills (i.e., expressive vocabulary, pragmatics) in the social adjustment of young shy children. Within the context of the family, the focus has been on the role of parental overcontrol and overprotectiveness (e.g., Coplan et al., 2004; Rubin, Cheah, & Fox, 2001). For example, Coplan et al. (2008) recently reported that relations between shyness (as assessed at the start of the kindergarten school year) and indices of maladjustment (at the end of the school year) were significantly stronger among children with mothers characterized by higher neuroticism, threat sensitivity, and an overprotective parenting style, and significantly weaker for children with mothers characterized by high agreeableness and an authoritative parenting style (see also Degnan, Henderson, Fox, & Rubin, 2008).

Within the realm of peer relations, Gazelle and Ladd (2003) reported that peer exclusion appears to lead to increased long-term difficulties for shy children. As well, there is recent empirical support for the notion that shy children's friendships may also play an important moderating role (e.g., Oh et al., 2008) in the relation between shyness and child outcome indices. Interestingly, Findlay and Coplan (2008) also found evidence to suggest that participation in organized sports plays a unique protective role for shy, withdrawn children; specifically sport participation was related to increased general self-esteem and decreased social anxiety. The authors suggested that sports participation may be beneficial to shy children by providing increased peer interaction opportunities as well as opportunities for success.

Much less is known in terms of the school environment. There is some preliminary evidence with regard to the role of classroom environment. Gazelle (2006) found that anxious solitary children who were in classrooms with negative emotional climates (e.g., hostile atmosphere, irritable teacher, classrooms that are not effectively managed) were at increased risk of suffering from peer rejection, victimization, low peer acceptance, and symptoms of depression. Due to their extensive contact with children, another moderating factor in the classroom worthy of research attention is teacher–child relationships. However, to date the specific moderating role of teacher–child relationships in relation to child shyness have not been explored.

Teacher–child relationships and shyness

Particularly in early childhood, relationships with teachers play a critical role in children's social, emotional, and academic development (e.g., Birch & Ladd, 1997; Hamre & Pianta, 2001; Howes, Phillipsen, & Peisner-Feinberg, 2000; Pianta & Stuhlman, 2004). In the absence of parents, teachers are the authority figures children turn to for help and guidance (Hamre & Pianta, 2001, 2006). In essence, teachers can serve as a secure base from which children can explore the classroom and interact with their peers (Birch & Ladd, 1997; Thijs & Koomen, 2008).

Teacher–child relationships are frequently characterized by the levels of closeness, conflict, and dependency within the relationship. These dimensions are not exclusive, thus scoring high on one dimension will not prevent a child from also scoring high on the other dimensions. A *close* teacher–child relationship is one that consists of warmth and open communication between children and their teacher, and is concurrently and predictively related to a variety of positive school outcomes for children (Birch & Ladd, 1997; Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002; Hamre & Pianta, 2001; Hughes, Cavell, & Jackson, 1999; Pianta & Stuhlman, 2004).

In contrast, a *conflictual* teacher–child relationship is characterized by high levels of tension and hostility, and by frequent disputes, whereas in a *dependent* teacher–child relationship, the child is overly "clingy" and reliant on the teacher. Overall, both of these dimensions of teacher–child relationships have been related to more negative child outcomes (Birch & Ladd, 1997; Hamre & Pianta, 2001; Hamre, Pianta, Downer, & Mashburn, 2008; Hughes, Cavell, & Willson, 2001; Pianta & Stuhlman, 2004). It is important to note that a dependent relationship with a teacher is quite different from a close relationship with a teacher. A child who is dependent on their teacher may refrain from exploring their classroom and interacting with peers because he or she is hesitant to leave the teacher's side; whereas children who have close relationships with their teacher are able to interact freely in the classroom while using their teacher as a source of support (Birch & Ladd, 1997).

There is a growing literature examining the protective role of teacher–child relationships for "at risk" children (Burchinal et al., 2002; Copeland-Mitchell, Denham, & DeMulder, 1997; Ladd & Burgess, 2001; Lynch & Cicchetti, 1992; Meehan, Hughes, & Cavell, 2003). For instance, Hughes et al. (1999) found that children who were at risk of having a negative maternal relationship but who had a positive teacher relationship were less likely to remain aggressive (as rated by their peers). As well, Hamre and Pianta (2001) reported that for those children who had the highest levels of behavior problems in kindergarten, having a less negative teacher–child relationship in kindergarten was related to less disciplinary and classroom problems in the future. However, the moderating role of teacher–child relationships in the adjustment of shy children has yet to be explicitly explored.

Some researchers have suggested that due to their "meek nature" shy children may easily become "invisible" to teachers (Evans, 2001; Keogh, 2003; Rimm-Kaufman et al., 2002; Rimm-Kaufman & Kagan, 2005; Rudasill & Rimm-Kaufman, 2009). Indeed, some researchers have postulated that teachers may even encourage shy behaviors because they maintain order in the classroom (e.g., Rubin, 1982). However, results from other recent research suggest that shy children are not going unnoticed by teachers (e.g., Coplan & Arbeau, 2008; Coplan & Prakash, 2003; Thijs, Koomen, & Van der Leij, 2006). For example, Arbeau and Coplan (2007) reported that kindergarten teachers were just as likely to predict that shy children would be at risk for future social difficulties as aggressive children, suggesting that teachers do perceive shyness as a serious behavior problem in early childhood classrooms.

In the present study, teacher–child relationships were explored as a potential moderating factor for shyness. Researchers have reported that shy children tend to develop less close, less conflictual, and more dependent relationships with their teachers (Howes,

Hamilton, & Matheson, 1994; Rudasill & Rimm-Kaufman, 2009; Rudasill, Rimm-Kaufman, Justice, & Pence, 2006; Rydell, Bohlin, & Thorell, 2005). As discussed in the previous section, dependent teacher–child relationships are associated with a number of negative outcomes (e.g., Birch & Ladd, 1997); outcomes that may further exacerbate shy children's maladjustment. Although shy children may be less likely to develop close relationships with their teachers, perhaps those who do develop close teacher–child relationships may be protected from some of the adjustment problems often found to be associated with shyness.

The present study

The purpose of the present study was to explore the moderating role of teacher–child relationships in the relation between shyness and adjustment (i.e., school avoidance, internalizing difficulties, and peer relationships) in grade 1. In and of itself, shyness was expected to be related to negative adjustment problems at school, including anxiety, social withdrawal, peer exclusion, and school avoidance (e.g., Coplan & Arbeau, 2008). Children's shyness was also predicted to be associated with the formation of less close, less conflictual, and more dependent relationships with their teachers (e.g., Rydell et al., 2005). Moreover, consistent with previous research, relations between shyness and these negative outcomes were expected to be more pronounced for boys than girls (e.g., Stevenson-Hinde & Glover, 1996). In addition, whereas close teacher–child relationships were expected to be associated with positive adjustment outcomes, conflictual and dependent teacher–child relationships were hypothesized to be related to indices of negative adjustment (e.g., Birch & Ladd, 1997).

The central goal of the current study was to explore the moderating role of teacher–child relationships in the school adjustment of young shy children. Conceptually, we draw upon previous research in the area of parenting suggesting that warm/supportive parenting may serve a protective role and anxious/overprotective parenting may exacerbate negative outcomes for young shy children (e.g., Coplan et al., 2008). Thus, we speculated that relations between shyness and indices of maladjustment would be stronger among children who formed more dependent or conflictual relationships with teachers (i.e., exacerbating process), and weaker among children who formed closer relationships with their teachers (i.e., buffering process).

Method

Participants

The participants in this study were 169 children (84 boys, 85 girls, $M_{age} = 76.93$ months, $SD = 3.86$ months). Children were enrolled in grade 1 in 14 public schools located in eastern Ontario, Canada. The number of children participating in the 14 grade 1 classrooms ranged from 9 to 18 (with a mean of just under 13). All participating teachers were female (unfortunately, we were not able to collect demographic information from teachers).

The sample of children was 73% Caucasian, with a variety of other ethnicities also represented (12% Asian, 5% Black). Approximately 17% of mothers and 21% of fathers had completed high school only, 68% of mothers and 64% of fathers had a college/university degree, and 10% of mothers and 9% of fathers also had some post-graduate experience. The public school board from which the sample was drawn did not permit the collection of information regarding parental employment status and income.

Procedure

Data were collected at three time points over the course of the school year (October/November, January/February, and May/June). Multi-source assessment was employed, including maternal ratings, teacher ratings, and individual child interviews.

Measures

Child shyness. Mothers completed the Child Social Preference Scale (CSPS; Coplan et al., 2004) a few weeks after the start of the school year (September). Coplan et al. (2004) reported good psychometric properties of the CSPS (e.g., reliable factor structure, high internal consistency) as well as indications of strong construct validity (i.e., conceptually consistent associations with relevant behavioral observations, teacher ratings, and child interview assessments). Of particular interest for the current study was the subscale of *shyness* (seven items, e.g., "My child seems to want to play with others, but is sometimes nervous to", $\alpha = .90$ in the current sample).

Teacher–child relationships. In January/February of the school year, the first grade teachers completed the Student–Teacher Relationship Scale (STRS; Pianta, 2001) on each of the participating children from their classes. The STRS measures teachers' perceptions of their relationships with the children in their class. Teachers were asked to complete the STRS midway through the year to ensure they had adequate time to develop relationships with their students. The STRS consists of 28 items and has been shown to contain the following three factors: *Closeness* (11 items, e.g., "I share an affectionate, warm relationship with this child"), *Dependency* (five items, e.g., "This child is overly dependent on me"), and *Conflict* (12 items, "This child and I always seem to be struggling with each other"). The Cronbach's alphas for the Closeness, Dependency, and Conflict subscales in the present investigation were .91, .76, and .92, respectively. The STRS is a frequently used measure of teachers' relationships with their students, and has been shown to have sufficient psychometric properties (e.g., Birch & Ladd, 1997; Hamre & Pianta, 2001; Howes et al., 2000).

Child adjustment. At the end of the school year (May/June) children were individually interviewed by trained research assistants. Assessments included the Loneliness and Social Dissatisfaction Questionnaire for Young Children (Cassidy & Asher, 1992). The scale contains 16 items (e.g., "Are you lonely at school?") that are combined to create an individual assessment of children's loneliness and social dissatisfaction at school ($\alpha = .85$ in the present sample). The Loneliness and Social Dissatisfaction Questionnaire for Young Children has been shown to be a reliable and valid measure of young children's feelings of loneliness and social dissatisfaction in the school setting (e.g., Cassidy & Asher, 1992; Coplan, Closson, & Arbeau, 2007).

As well, children were administered the 14-item self-report School Liking and Avoidance Questionnaire (SLAQ; Ladd & Price, 1987). Of particular interest was the five-item subscale measuring children's levels of school avoidance (e.g., "Do you ask your Mommy or Daddy to let you stay home from school?", $\alpha = .83$

Table 1. Partial correlations (controlling for gender and parental education) between outcome variables

	2	3	4	5	6
1. Loneliness	.31***	.17*	.10	.18*	−.16*
2. School avoidance		.15^{+}	.07	.08	−.04
3. Anxious with peers			.46***	.32***	−.24**
4. Asocial with peers				.45***	−.12
5. Excluded by peers					−.47***
6. Prosocial with peers					

Note. *** $p < .001$; ** $p < .01$; * $p < .05$; $^{+}$ $p < .10$.

in the current sample). The SLAQ has been shown to have good psychometric properties (e.g., Birch & Ladd, 1997; Coplan et al., 2008).

Finally, at the end of the school year, teachers also completed the Child Behavior Scale (CBS; Ladd & Profilet, 1996). The CBS is a 35-item measure of children's behaviors in the classroom. Of particular interest for the present study were the subscales of: *prosocial with peers* (seven items, e.g., "cooperative with peers", $\alpha = .93$ in the current sample); *asocial with peers* (six items, e.g., "solitary child", $\alpha = .89$); *excluded by peers* (seven items, e.g., "peers avoid this child", $\alpha = .91$); and *anxious-fearful* (four items, e.g., "fearful or afraid", $\alpha = .80$). The measure has been shown to be a reliable and valid assessment of child classroom behaviors (Ladd & Profilet, 1996).

Results

Preliminary analyses

An aggregate measure of parental education was not significantly related to child shyness ($r = -.07$, *ns*). However, parental education was significantly correlated with conflictual teacher–child relationships ($r = -.27$, $p < .001$), dependent teacher–child relationships ($r = -.25$, $p < .01$), and the child outcome variables of loneliness ($r = -.19$, $p < .05$) and prosocial behavior ($r = .30$, $p < .001$). Results from *t*-tests indicated no gender differences in parental ratings of child shyness. However, a number of significant gender differences were found for teacher–child relationships (i.e., boys had more conflictual relationships than girls, girls had closer relationships with teachers than boys) and a number of outcome variables (e.g., boys were more school avoidant than girls, girls were more prosocial than boys). As a result, both parental education and child gender were statistically controlled in all subsequent analyses.

Close teacher–child relationships were significantly and negatively correlated to conflictual ($r = -.48$, $p < .001$) and the negative relation with dependency approached significance ($r = -.14$, $p < .08$). Teacher–child conflict and dependency were significantly and positively correlated ($r = .37$, $p < .001$). Finally, correlations between outcome variables are presented in Table 1.

Associations between shyness and teacher–child relationships

Partial correlations (controlling for child sex and parental education) were computed to explore the relations between shyness and teacher–child relationships. Shyness was significantly (albeit modestly) and negatively related to close teacher–child relationships ($r = -.18$, $p < .05$) and significantly (again albeit modestly) and positively related to dependent teacher–child relationships ($r = .17$, $p < .05$). Shyness was not significantly related to conflictual teacher–child relationships ($r = -.03$, *ns*). The magnitude of these associations did not differ as a function of child gender. Thus, overall, shy children tended to form somewhat less close and more dependent relationships with teachers.

Table 2. Partial correlations (controlling for parental education) between shyness, teacher–child relationships, and socio-emotional adjustment outcome variables

	Shyness	Close TCR	Conflictual TCR	Dependent TCR
Loneliness	.02	−.08	.05	.09
School avoidance	.05	−.22**	.23**	.10
Anxious with peers	.16*	−.26***	.25***	.48***
Asocial with peers	.37***	−.30***	.17*	.28***
Excluded by peers	.29***	−.34***	.48***	.17*
Prosocial with peers	−.12	.47***	−.53***	−.17*

Notes. TCR: teacher–child relationship.
*** $p < .001$; ** $p < .01$; * $p < .05$.

Shyness, teacher–child relationships, and child adjustment

Results from partial correlations (controlling for parental education) between shyness and teacher–child relationships and outcome variables are presented in Table 2. The pattern of results was consistent with hypothesized associations. For example, maternal-rated shyness was significantly and positively associated with teacher-rated child anxiety, asocial behavior, and peer exclusion. Close teacher–child relationships were negatively associated with self-reported school avoidance, teacher-rated anxiety, asocial behavior, and peer exclusion, as well as positively related to prosocial behavior with peers. Conflictual teacher–child relationships were positively associated with school avoidance, anxiety, asocial behavior, and peer exclusion, and negatively related to prosocial behavior with peers. Finally, dependent teacher–child relationships were positively associated with anxiety, asocial behavior, and peer exclusion, and negatively related to prosocial behavior with peers.

The primary goal of these analyses was to assess how teacher–child relationships might *moderate* the associations between shyness (at the start of the school year) and socio-emotional adjustment (at the end of the school year). In order to accomplish this goal, a series of hierarchical regression analyses[1] was performed employing Cohen's partialed products technique (Aiken & West, 1991). For each equation, parental education was entered at Step 1 as a control variable. In Step 2, standardized "main effect" variables (e.g., maternal-rated shyness, teacher-reported teacher–child relationships, child gender) were entered next. In Step 3, conceptually relevant two-way interaction terms were entered—as represented by multiplicative products (i.e., shyness × gender, as well as shyness × close, shyness × conflictual, and shyness × dependent teacher–child relationships). Three-way interaction terms were not entered given the extremely large sample sizes typically needed to detect higher interactions in non-experimental designs (Judd, McClelland, & Culhane, 1995). Separate equations were computed

Table 3. Results of regression analyses predicting indices of adjustment from interactions between gender, child shyness, and teacher–child relationships

	Two-way interaction terms (sr^2)			
Dependent variable	Shyness x Gender	Shy x Close	Shy x Conflictual	Shy x Dependent
Loneliness	.033*	.015	.010	.002
School avoidance	.001	.004**	.005	.010
Anxious with peers	.013	.055**	.019^{+}	.011
Asocial with peers	.008	.056**	.001	.058**
Excluded by peers	.001	.010	.019^{+}	.028*
Prosocial with peers	.001	.002	.001	.002

Note. ** $p < .01$; * $p < .05$; $^{+}$ $p < .10$.

to predict each of the self-reported and teacher-rated child outcome variables. The *N*s for each analysis vary slightly as a function of missing data. In order to ease presentation (and since "main effect" correlations between shyness, teacher–child relationships, and outcomes are already displayed in Table 2), only results related to the interaction terms are summarized in Table 3.

To begin with, a significant shyness × gender interaction was observed in the prediction of child self-reported loneliness. Results from follow-up simple effects analyses indicated that for boys, shyness was significantly and positively associated with loneliness ($\beta = .22$, $p < .05$) whereas for girls, there was a negative (but non-significant) relation between the variables ($\beta = -.14$, *ns*).

Significant shyness × close teacher–child relationships interactions were found in the prediction of self-reported school avoidance, teacher-rated anxiety, and teacher-rated asocial behavior with peers. To explore these interactions, simple slopes analyses were performed (Aiken & West, 1991). Results are displayed in Figure 1, with a similar pattern of findings for each of the three outcome variables. Decreasing values of teacher–child closeness corresponded with an increased positive association between shyness and self-reported school avoidance, as well as teacher-rated child anxiety and asocial behavior with peers. In other words, a closer teacher–child relationship appeared to act as a protective factor, with the positive association between shyness and adjustment difficulties only evident among children with less close teacher–child relationships.

Significant shyness × dependent teacher–child relationships interactions were found in the prediction of teacher-rated asocial behavior with peers and peer exclusion. Results from simple slopes analyses are displayed in Figure 2. A similar pattern was observed for both outcome variables. However, in this case increasing values of teacher–child dependency corresponded with an increased positive association between shyness and both teacher-rated child asocial behavior and peer exclusion. In other words, teacher–child dependency appeared to act as an exacerbating factor, with the positive association between shyness and adjustment difficulties increasingly evident among children with more dependent teacher–child relationships.

Finally, no significant shyness × conflictual teacher–child relationships interactions were found in the prediction of adjustment outcomes.

Discussion

The primary goal of the present study was to examine the moderating role of children's relationships with teachers in the relation between shyness and school adjustment of young children. Overall, results indicated that both child shyness and teacher–child relationships were uniquely associated with child adjustment in grade 1. However, a number of interaction effects were also observed. The pattern of these results suggested that close teacher–child relationships may buffer shy children from negative outcomes at school, whereas dependent teacher–child relationships appear to play an exacerbating role.

Maternal-rated child shyness was associated with teacher-rated child anxiety, asocial behaviors, and peer exclusion. These findings support the growing research linking shyness and adjustment difficulties in early childhood (e.g., Coplan et al., 2008; Gazelle & Ladd, 2003; Stevenson-Hinde & Glover, 1996) and are in keeping with the notion that shy children may be having a particularly difficult time adjusting to school (Coplan & Arbeau, 2008). The relation between shyness and early peer exclusion is particularly noteworthy given recent evidence that peer exclusion appears to increase the risk of depressive symptoms, particularly in shy children (Gazelle & Ladd, 2003). Thus, peer relationship difficulties in the first grade contribute to long-lasting adjustment problems in shy children.

Some evidence of gender differences was also noted. Shyness in boys (but not girls) in grade 1 was related to feelings of loneliness, consistent with previous findings from Coplan, Closson, and Arbeau (2007) with younger children, and Rubin, Chen, and Hymel (1993) in an older sample. Previous research has also found that shy boys tend to have more difficulties than shy girls (Rubin & Coplan, 2004). Feelings of loneliness for shy boys may contribute to the development of later internalizing problems. Indeed, gender differences in the implications of shyness have been found to persist into adulthood (Caspi, Elder, & Bem, 1988). The current study was a one-year longitudinal project in which shy children had the opportunity to become familiar with their classroom; hence in addition to initial unfamiliarity to the classroom setting, social-evaluative concerns (e.g., fear of being rejected by peers) may also help explain the associations between shyness and child adjustment difficulties in the present investigation (Coplan et al., 2009).

Results from the present study also added to the extensive literature demonstrating the important role of teacher–child relationships in young children's school adjustment (e.g., Birch & Ladd, 1997; Hamre & Pianta, 2001). For example, closer teacher–child relationships were negatively associated with child self-reported school avoidance, and teacher-rated child anxiety and asocial behaviors, as well as positively related to prosocial behaviors. Children who have closer relationships with their teachers may be able to use their teachers as a secure base to help them explore the classroom

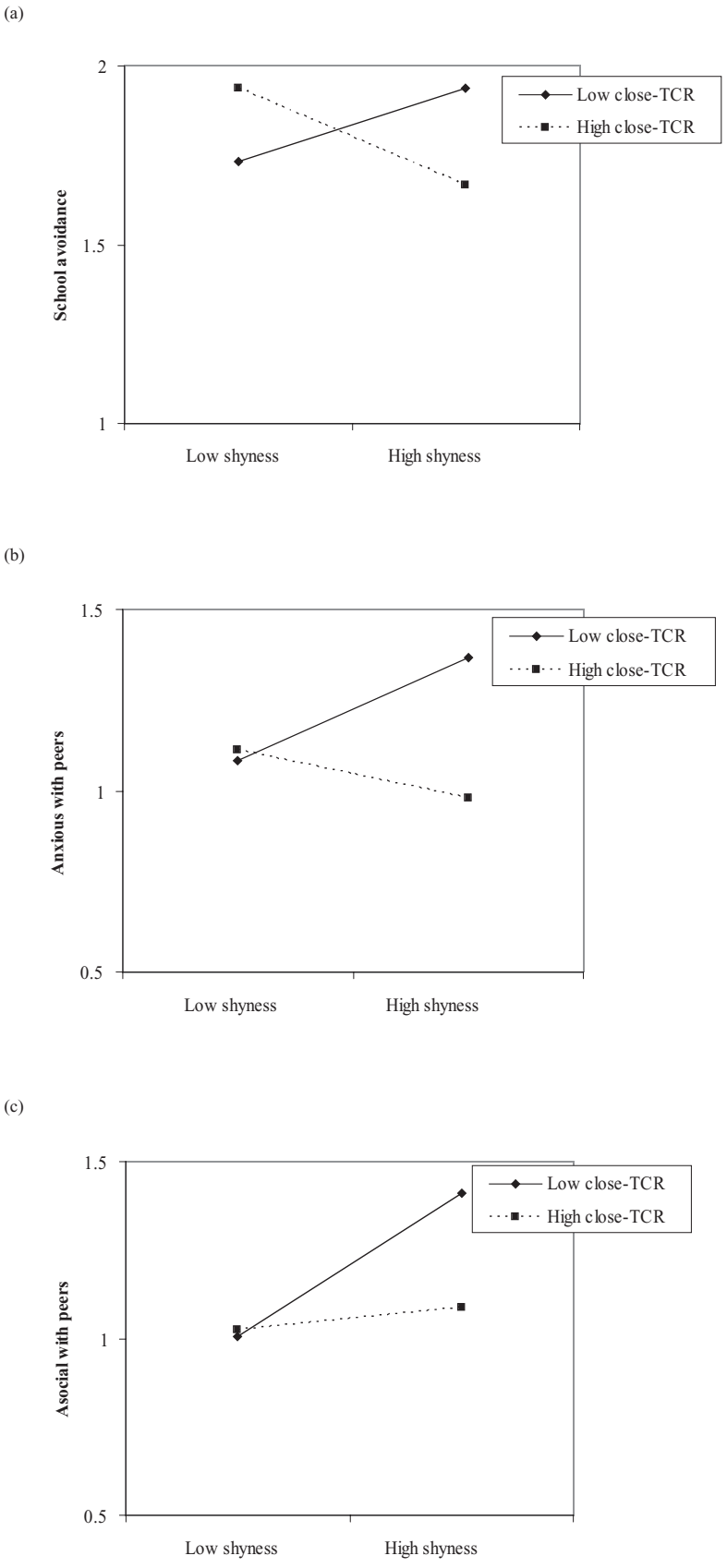
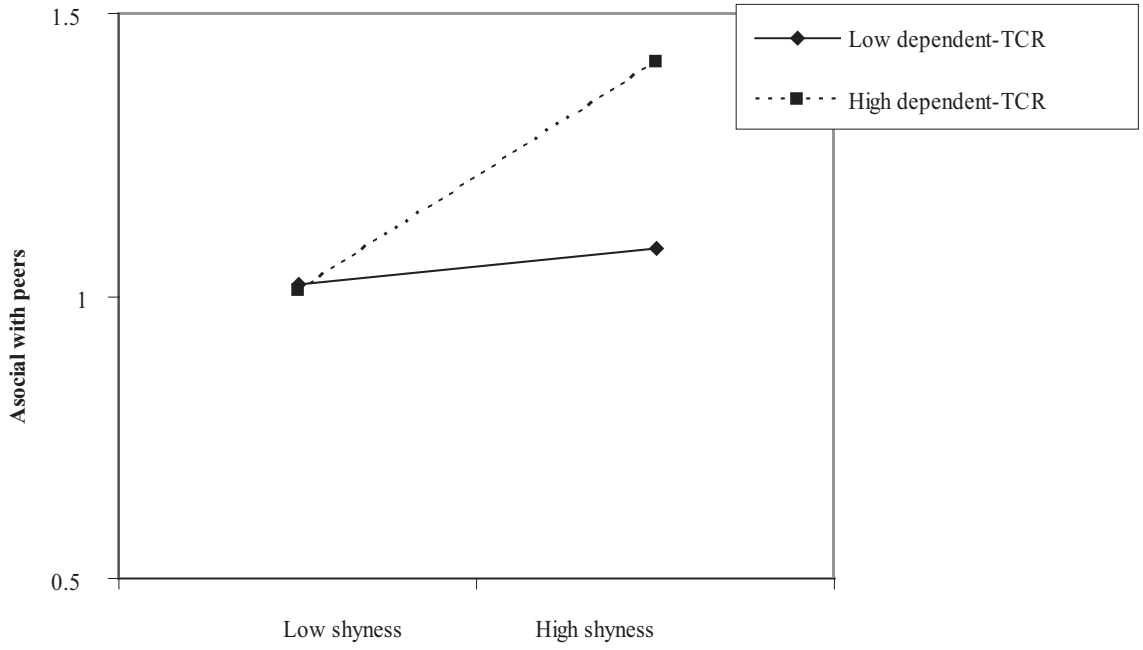


Figure 1. Interactions between shyness and close teacher–child relationships in the prediction of: (a) School avoidance; (b) Anxious with peers; and (c) Asocial with peers.

(a)



(b)

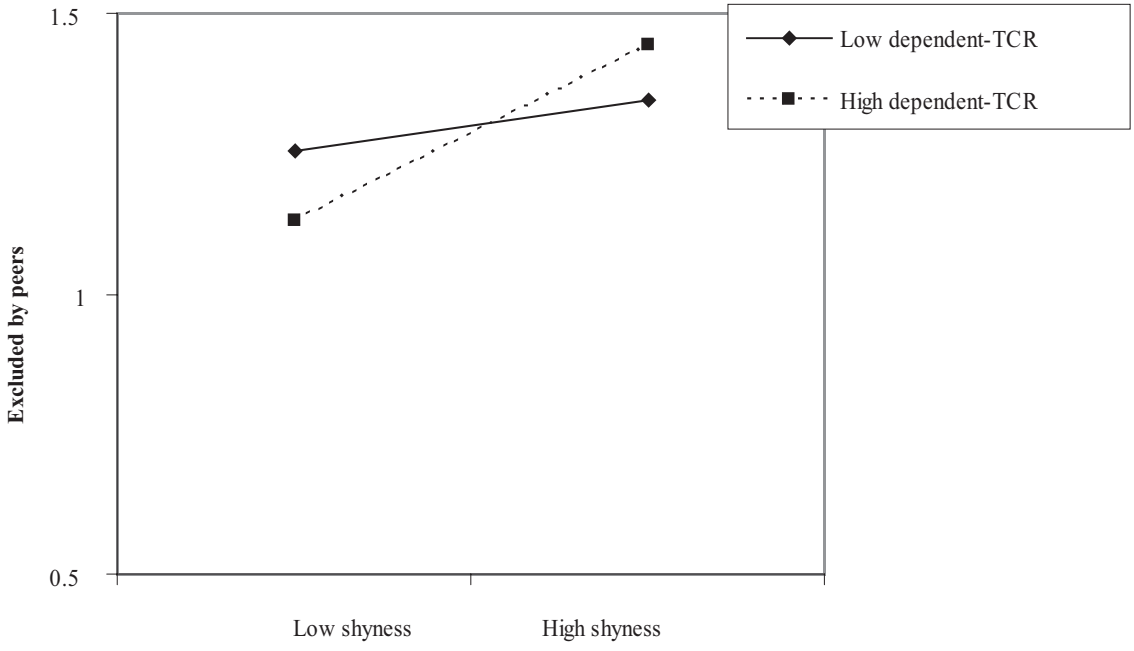


Figure 2. Interactions between shyness and dependent teacher–child relationships in the prediction of: (a) Asocial with peers; and (b) Peer exclusion.

environment (Birch & Ladd, 1997). The warm, supportive relationships offered by a close teacher–child relationship may help children successfully adjust to school.

In contrast, dependent teacher–child relationships were associated with teacher-rated child anxiety, asocial behaviors, and peer exclusion, and negatively related to prosocial behaviors. These findings are in line with past research which has reported that children who develop dependent teacher–child relationships are at risk of a number of problematic adjustment outcomes (Birch & Ladd, 1997; Hamre & Pianta, 2001). Children who are overly reliant and dependent on their teacher are missing out on opportunities to interact with their peers. It is also possible that children who choose to constantly interact with the teacher may be viewed by their peers as strange and/or as being the ''teacher's pet'', which could lead to further alienation by their peers.

As well, consistent with previous reports (e.g., Birch & Ladd, 1997; Hamre & Pianta, 2001), conflictual teacher–child relationships were positively related to child adjustment difficulties including self-reported school avoidance, teacher-rated child anxiety, asocial behaviors, peer exclusion, and negatively associated with prosocial behaviors. Children who have a conflictual teacher–child relationship may not enjoy coming to school because of the frictional relationship they have with their teachers. It is also possible that since the other children in their class are likely to witness the tension in their relationship with the teacher, they may face exclusion by the other members of the class. Teachers have been shown to influence children's opinions of other children (e.g., White, Sherman, & Jones, 1996). Having a negative relationship with both your teacher and peers is likely to severely impede school adjustment.

The moderating role of teacher–child relationships

The primary goal of the present study was to examine the moderating role of teacher–child relationships in the links between shyness and adjustment in the first grade. As expected, shyness was related to less closeness but more dependency in teacher–child relationships. This description of shy children's relationships with their teachers has been previously documented in the literature (Howes et al., 1994; Rudasill & Rimm-Kaufman, 2009; Rudasill et al., 2006; Rydell et al., 2005). Perhaps due to their high levels of anxiety and fear of associating with other children, shy children may become overly dependent on their teachers. It is also possible that since shy children tend to be excluded by peers, they may come to overly rely on teachers for social interaction.

However, not all shy children experienced the same degree of closeness and dependency in their relationships with teachers. Moreover, results from the present study provided some of the first empirical evidence to suggest that teacher–child relationships are particularly important for the socio-emotional adjustment of shy children.

To begin with, close teacher–child relationships appeared to be a positive moderator (i.e., buffering process) of shy children's school adjustment. Among lower levels of teacher–child closeness, shyness was increasingly related to self-reported school avoidance, teacher-rated anxiety, and teacher-rated social withdrawal. However, increasing levels of teacher–child closeness served to attenuate these associations. Thus, shy children who form closer relationships with their first grade teacher may be protected against some of the negative outcomes typically experienced by many shy children at school.

Conceptually, similarities can be drawn here with the findings of Coplan et al. (2008), who recently reported a similar pattern of results with regard to the buffering effect of warm and supportive parenting. Indeed, from an attachment perspective (e.g., Bowlby, 1982), shy children who form closer relationships with a teacher may come to feel more secure in the school environment. Similarly, Thijs and Koomen (2008), using multi-level modeling, recently reported a positive relation between teacher support and emotional security for kindergarten children performing a task with their teacher; this relation appeared to eliminate a negative relation between social inhibition and emotional security. Thus teacher support may be important for socially inhibited children to feel secure at school. Moreover, it has been suggested that a close relationship with a teacher provides children with a secure base from which to explore the school environment, which may also lead to increased opportunities for social interaction (Baker, 2006; Birch & Ladd, 1997; Hamre & Pianta, 2001). This might serve to make the shy child less anxious and withdrawn at school, which in turn would make the child a more attractive playmate for peers and ultimately lead to the formation of important friendships (Coplan, Girardi, Findlay, & Frohlick, 2007).

Our results also suggest that the formation of a dependent teacher–child relationship might represent a particularly negative scenario for shy children. Among higher levels of teacher–child dependence, shyness was increasingly associated with teacher-rated child social withdrawal and peer exclusion. This pattern is suggestive of a negative moderation effect, with teacher dependency serving to exacerbate negative outcomes for shy children.

Perhaps shy children who are not overly dependent on their teachers are less negatively salient to peers, as compared to shy children who frequently seek attention from or ''cling'' to their teacher. Indeed, peers may exclude shy children with strong attachments to their teacher simply because these children spend most of their time with their teacher. Moreover, dependence on teachers may serve to even further restrict social exploration by shy children. Indeed, over-reliance on teachers for support and for resolving social issues may inhibit the development of shy children's coping strategies for dealing with social stressors, as suggested by comparable work in the parenting literature (e.g., Coplan et al., 2008; Rubin et al., 2001).

The findings from the current project do not suggest a moderating role for conflictual teacher–child relationships. Shy children are probably unlikely to develop conflictual relationships with their teachers, because they are typically quiet and compliant (Evans, 2001), thus close and dependent teacher–child relationships may be more important moderators in shy children's adjustment.

Limitations and future research

The present study provided some of the first evidence to suggest that teacher–child relationships serve a protective role for young shy children at school. Nevertheless, some limitations with the current study must be acknowledged. To begin with, the correlational nature of this study makes it impossible to draw firm conclusions in terms of the causal mechanisms that may underlie these associations. For example, from the perspective of the child it is also possible that shy children who experience fewer adjustment problems at school also tend to form closer and less dependent relationships with their teachers. Indeed, Rudasill et al. (2006) reported that shy children who had greater language ability also had more dependent relationships with their teachers. The authors suggested that shy children who have greater language complexity may use this ability

to get the teacher's attention. Alternatively, from the perspective of the teacher, it may be that teachers are more likely to form closer and less dependent relationships with shy children who are "doing better" at school.

Longitudinal studies and attempts at early intervention and prevention are necessary to further explicate these results. In terms of early intervention, education and training programs for teachers could focus on the development of shyness and instruction in specific techniques for assisting shy children in the school environment (Coplan & Arbeau, 2008). For example, Henderson and Fox (1998) recommended providing shy children with more activity choices in class so they would be able to choose the activity with which they are the most comfortable. They also suggested discussing with shy children in advance any upcoming changes to the classroom routine, so they have time to prepare (Henderson & Fox, 1998). Evans and Bienert (1992) advised teachers to refrain from asking shy children so many questions, and instead to use personal contributions and phatics (e.g., "hmm") to help extend conversations with shy children. Further, the teachers interviewed by Evans (2001) suggest that teachers talk to shy children when other people are not around, talk to them about their personal lives, and have shy children gradually become comfortable with speaking in class. These strategies may help teachers to establish closer relationships with the shy children in their class, which may ultimately serve to protect shy children from the risk of longer-term negative outcomes.

As well, although we employed a parent report of child shyness and some child self-report measures of adjustment, teachers rated both their own relationships with children as well as some of the child outcomes. This represents an issue of shared method variance, where teachers may have judged those children with whom they had a better relationship as being better adjusted at school. Alternatively, children who are adjusting well to school may be more liked and therefore may more easily connect to their teachers, leading teachers to evaluate their relationships with these children more positively. Future research should include the use of alternate source assessments for both teacher–child relationships and child outcomes.

Finally, sample size did not permit the examination of three-way interactions (i.e., child shyness, gender, teacher–child relationships) in the prediction of outcomes. Future research with larger sample sizes should investigate whether teacher–child relationships serve different roles for shy boys versus shy girls. It is possible that shy boys may benefit more from closer, less dependent relationships with their classroom teachers than shy girls.

School is a very social setting, so the adjustment to school may be particularly stressful for shy children (Coplan & Arbeau, 2008). Thus, it is particularly important that protective factors at school be identified for shy children. The current study has shown that one type of protective factor may be shy children's relationships with their teachers. Perhaps a positive teacher–child relationship may help shy children feel more comfortable exploring their classroom and interacting with their peers, possibly decreasing shy children's risks for both immediate and long-term adjustment problems.

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Note

1. Exploratory analyses were conducted in order to address whether the nested design (children nested within classrooms) led to a violation of the assumption of independence. Results from a series of intraclass correlations suggested that the variance attributable to the classroom level was low (i.e., .02%–5%). Also, χ^2 likelihood-ratio tests suggested that including predictor variables at the classroom level did not significantly increase the fit of the model (all $ps > .25$). These results suggested that there was no significant variability at the classroom level, the assumption of independence has not been violated, and that multilevel analyses were not needed for this data.

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