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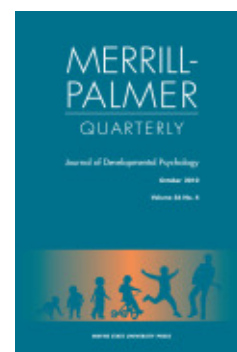
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## **Parenting Practices and Child Social Adjustment: Multiple Pathways of Influence**

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## Parenting Practices and Child Social Adjustment: Multiple Pathways of Influence

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This study explored pathways of influence linking parenting practices, child perceptions of their parents and peers, and social adjustment. Two dimensions of parenting practices were assessed from both parent and child reports: warmth/support and hostility/control. Child perceptions of peers also were assessed along these same dimensions. Parenting practices were related to peer-reported social behavior, peer dislike, and child social problem solving. Children's perceptions of their parenting experiences were related to their social problem solving and their reported social distress. In some cases, child perceptions of peer relations mediated the associations. The findings are discussed in terms of the importance of both the family and peer domains for child social development and the influence that child perceptions may have for psychological well-being.

In 1978, Hartup wrote an influential paper in which he described the context of the family and the context of the peer group as "the two worlds of childhood." Although previous research had emphasized the impact of parenting on child social-emotional development, Hartup (1979) drew from ethnographic and primate studies to suggest that peer interaction might also play a critical and complementary role in the socialization process. Since then empirical research has validated the importance of positive peer relations, indicating that they provide social support, promote social skill development, and buffer children against feelings of loneliness and social anxiety (Parker, Rubin, Price, & DeRosier, 1996). In

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contrast, poor peer relations predict concurrent and long-term problems, including aggression, school failure, and psychological distress (Parker & Asher, 1987). Researchers are now beginning to explore links between the socialization system of the family and the experiences children have with peers, in order to better understand developmental processes that may account for continuity (or discontinuity) in social-emotional development across these important socialization contexts.

One conceptual model of linkage, the social learning theory model, predicts that parenting practices act to model, evoke, and selectively reinforce child social behavior, thereby influencing peer relations (Putallaz & Heflin, 1990). Indeed, parental praise, positive involvement, and demonstrations of affection and warmth predict child displays of prosocial behavior (Brody & Shaffer, 1982; Radke-Yarrow, Zahn-Waxler, & Chapman, 1983), teacher ratings of child social competence (Atilli, 1989; Dekovic & Janssens, 1992), and low levels of child aggression at home and at school (Atilli, 1989; Pettit, Bates, & Dodge, 1993; Rothbaum, Schneider-Rosen, Pott, & Beatty, 1995). Conversely, high levels of coercive and punitive discipline, including frequent reprimands, threats, and hostile punishment promote child aggression (Dishion, 1990; Eron, Huesmann, & Zelli, 1991; McFadyen-Ketchum, Bates, Dodge, & Pettit, 1996; Pettit et al., 1993) and are associated with low levels of child prosocial behavior in peer contexts (Brody & Shaffer, 1982).

Parent-child interactions also appear to influence children's social problem-solving orientations by teaching children strategies for initiating interactions and resolving conflicts in peer situations (Hart, Ladd, & Burleson, 1990; Weiss, Dodge, Bates, & Pettit, 1992). For example, Pettit and his colleagues (Pettit, Harrist, Bates, & Dodge, 1991) found that intrusive parent-child interactions predicted aggressive child problem-solving orientations and aggressive child social behavior at school entry, whereas warm, responsive, and involved parenting practices predicted prosocial child problem-solving strategies and prosocial behavior with peers.

Social learning theorists postulate that, by shaping child problem-solving strategies and social behavior, parenting practices also influence peer responses. Certainly, children who exhibit high rates of aggressive behavior at school, low rates of prosocial behavior, and hostile or incompetent problem-solving strategies are at risk for peer rejection and victimization (Parker et al., 1996). Significant (though typically low-magnitude) correlations have been found linking parenting practices (particularly high levels of parental warmth) with peer status (Atilli, 1989; Dekovic & Janssens, 1992; Dishion, 1990; MacKinnon-Lewis et al., 1994; Parke et al., 1989). In two cross-sectional studies, path analyses confirmed multi-

step models in which parenting practices influenced child social behaviors, which in turn influenced peer ratings (Bierman & Smoot, 1991; Patterson, Dishion, & Bank, 1984). Once rejected by peers, children may experience victimization (Perry, Kusel, & Perry, 1988), which leads to increased feelings of loneliness and distress, low self-esteem, and other long-term social problems (Boivin, Hymel, & Bukowski, 1995). To summarize, in a social learning theory model, parenting practices are the central mechanisms of action that shape the proximal outcomes of child social behavior and problem solving. No direct influence of parenting practices on child feelings of loneliness and social distress is posited in this model, although a distal relationship may occur, as parenting practices shape child social behaviors, which affect peer evaluations and responses that, if negative, may evoke child loneliness and social distress (Coie, 1990).

In contrast, other researchers have developed conceptual models of linkages between the family and peer contexts that focus on the effects of parenting practices on child perceptions, expectations, and affect about social relationships. In these models, investigators have been particularly interested in the way children perceive their parents (Ladd, 1992; Main, Kaplan, & Cassidy, 1985; Oppenheim, Emde, & Warren, 1997). Theorists have suggested that, beginning at very early ages, children develop internal representations of their relationships, referred to as internal working models, knowledge structures, or schemas (Baldwin, 1992; Bowlby, 1969; Dodge, 1993). Theoretically, one critical function of these representations is that they influence social cognitive processes, which in turn produce patterns of social interactions that maintain the representation and increase the likelihood that future relationships will be qualitatively similar to those in the past (Sroufe & Fleeson, 1986).

In support of this model, several researchers have shown that parental behavior has less of an influence on children's social adjustment than the child's beliefs about the parent's behavior (Deater-Deckard & Dodge, 1997) or their affective reactions to parental behavior (Rohner, 1986; Rohner, Bourque, & Elordi, 1996; Rohner, Kean, & Cournoyer, 1991). Rohner and his colleagues have shown that children's feelings of acceptance or rejection in the parent-child relationship mediate associations between harsh parenting and children's social adjustment (Rohner et al., 1996).

A number of researchers have suggested that relationship representations may be a mechanism in the transmission of social patterns between the family and peer domains. Significant correlations have emerged between children's perceptions of maternal warmth and their perceptions

of warmth in their peer relations (Armsden & Greenberg, 1987; Dubow & Ullman, 1989; Stocker, 1994). Further, in one recent short-term longitudinal study, Rudolph, Hammen, and Burge (1995) found that child representations of peers mediated the relationship between representations of parents and social functioning.

As theorized in the representation model, child perceptions of the quality of their relationships with parents and peers exert a primary influence on their social-cognitive processes and their affective evaluations of social security or distress. Indeed, children's perceptions of low levels of support and high levels of conflict in both parent and peer relationships are associated with self-reported loneliness (Dubow & Ullman, 1989; Stocker, 1994) and child perceptions of peer victimization (Rigby, 1994).

Although it is posited that, by affecting social-cognitive and affective appraisal systems, representations of parent and peer relations may also affect child social behavior and peer status, the data are mixed. Some investigators have documented significant links between child perceptions of conflictual family and peer relations, and disruptive problem behaviors and peer rejection in the school context (Baker, Barthelemy, & Kurdek, 1993; Dubow & Tisak, 1989; Dubow, Tisak, Causey, Hryshko, & Reid, 1991; Kurdek, Fine, & Sinclair, 1995; Parker & Asher, 1993; Patterson, Kupersmidt, & Griesler, 1990). Also consistent with the model, some studies have found child perceptions of support from parents and peers predict teacher ratings of prosocial behavior and positive peer status (Armentrout, 1972; Dubow & Tisak, 1989; Dubow et al., 1991; Dubow & Ullman, 1989; East, 1991; Kurdek & Fine, 1994; Patterson et al., 1990). In contrast, however, other investigators have reported nonsignificant links between child perceived support or conflict in parent-child or peer relationships and child social behavior (Dubow & Tisak, 1989; Dubow et al., 1991; Dubow & Ullman, 1989; Kurdek et al., 1995).

In summary, the representational model suggests that while parental behavior is an important source of influence because it affects the representations children construct of the parent-child relationship, the child's perceptions of these relationships are the central mechanism of action. Hypothetically, the proximal outcomes influenced most directly by child perceptions of their relationships with parents are their perceptions and affective evaluations of peer relations and their orientation toward social problem solving in the peer context (Baldwin, 1992; Dodge, 1993). Child perceptions of the parent-child relationship may also affect their social behavior in a more distal linkage, as the way children perceive peers may influence the way they act toward those peers, which in turn may influence peer evaluations and responses.

*The Present Study*

The present study was designed to further explore pathways of influence linking parenting practices, child perceptions of their parenting and peer relations, and multiple aspects of child social adjustment (e.g., social behavior, social problem-solving strategies, peer status, and feelings of social distress). The central mechanisms of change were compared in two models of influence: (a) the social learning theory model, and (b) a representational model. It was anticipated that these models would not be mutually exclusive, but might represent two coexisting pathways linking parenting practices with child social adjustment.

To assess parenting practices, mothers reported on their own parenting practices and those of their spouse, including their use of positive parenting practices (affection, praise) and punitive control strategies (threats, yelling, punishment). Child representations of parent and peer relationships also were assessed on dimensions of both warmth/support and hostility/conflict. Children were asked about their experiences with both mothers and fathers and the sample included both boys and girls, to allow for the exploration of possible gender differences.

Four aspects of child social adjustment were assessed. Peer nominations were used to assess child social behavior (aggression, prosocial behavior) and to assess peer status and peer responses (peer liking, peer disliking, and victimization by peers). Child social problem-solving skills were assessed using hypothetical problem situations. Child feelings of social satisfaction/distress were assessed in areas of loneliness and perceived victimization.

Based on the social learning theory model, it was hypothesized that parenting practices (as reported by mothers) would have a proximal influence on, and be significantly related to, child social behavior and social problem solving. It also was expected that parenting practices would be related to peer status and peer responses, due to their impact on child social behavior. Based on representational models of relationships, it was hypothesized that parenting practices would affect the perceptions children formed of their parents, which in turn would influence the perceptions children formed of their peers. Representations of parents and peers, in turn, were expected to relate to child social cognitions and child feelings of social security/distress. It was anticipated that significant links also might emerge between representations of parents and peers and child social behavior, as they have in some prior studies; but as a more distal influence, this relationship was expected to be less reliable (reflected also in mixed findings in previous studies). Finally, it was hypothesized that

representations of peers would mediate the relationship between perceptions of parents and social outcomes.

Previous research did not provide a clear basis for predictions about gender differences in the hypothesized models. Whereas some researchers have documented gender differences in children's perceptions of their parents and peers (with boys reporting more positive perceptions of parents than girls, Hazzard, Christensen, & Margolin, 1983; and girls reporting more intimacy in friendships, Furman & Buhrmester, 1985), other studies suggest that boys and girls have comparable perceptions of parents and peers (similar levels of conflict reported by boys and girls, Furman & Buhrmester, 1985; Patterson et al., 1990). In terms of their social adjustment, boys typically experience more rejection and higher levels of physical victimization than do girls (Coie, Dodge, & Coppotelli, 1982; Perry et al., 1988). Given these mixed findings, no specific hypotheses were made about gender differences, but potential gender differences were explored.

## METHOD

### *Participants*

Participants were 71 girls and 69 boys attending fourth grade. Students ranged in age from 9 to 11.5, with a mean age of 10 years, 3 months. Reflecting the demographic characteristics of the rural regions from which the sample was drawn, the sample was almost entirely Caucasian (7 non-Caucasian participants), from middle- to lower-SES families. There were 115 children who came from two-parent families and 25 children from homes with only one parent.

### *Procedures*

In the spring of two consecutive years, fourth-grade students in seven participating elementary schools participated in sociometric interviews, conducted as part of a larger longitudinal research project (Conduct Problems Prevention Research Group, 1992). Children who were participating in the sociometrics (with parental permission) were sent a letter describing the present study. Home interviews with children and mothers were scheduled for those who returned a card indicating that they were interested in participating. During this interview, mothers were asked to complete the Parenting Practices Rating Scale, describing their parenting practices and (if relevant) those of their spouse. While the mother completed this measure, the interviewer administered four measures to the

**Table 1.** Relations Between Parent Reports of Parenting Practices and Child Social Adjustment

<i>Child social adjustment</i>	<i>Parent reports of parenting practices</i>	
	<i>Warm support</i>	<i>Hostile control</i>
Social behavior (sociometrics)		
Prosocial	.21*	.16
Aggressive	-.21*	.12
Social problem solving (self-report)		
Prosocial	.24**	-.16
Aggressive	.06	.08
Peer evaluation (sociometrics)		
Liked least	-.24*	.19
Victimization	-.17	.19
Liked most	.15	.12
Social distress (self-report)		
Loneliness	.17	.16
Victimization	.13	.19

*Note.* Caregivers provided ratings of their own and their partner's parenting practices. Scores shown are the multiple *R*'s from regressions including both standard scores.

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

child in a separate room. Parents received \$5 and children received \$10 for their participation. The seven interviewers were experienced paid research assistants, who attended training sessions and conducted supervised practice interviews prior to the collection of data.

### *Measures*

*Parenting practices.* Items included on the Parenting Practices Rating Scale are presented in Table 1. Fourteen items described warm, positive parental involvement and support drawn from the Child's Report of Parental Behavior Revised (CRPBI, Schaefer, 1965; Schludermann & Schludermann, 1970). Nine items described parental negativism, harsh punishment, and punitive control, drawn from the CRPBI and adapted from the Parent Behavior Inventory (Love & Kaswan, 1974). Items were selected on the basis of pilot testing conducted prior to the present study, with the goal of parallel identifying items that could be used by children to describe their interactions with both parents and peers. Of the 38 items that were pilot-tested, the 24 retained items had the best psychometric properties (i.e., interitem correlations  $> .35$ ) across the three types of measures (e.g., parent reports of parenting practices, child reports of interactions with parents, and child reports of interactions with peers). For



all items, parents used a 5-point Likert scale to indicate the frequency with which they (or their partner) employed each parenting practice (1 = *almost never* to 5 = *almost always*). Mothers completed one set of 25 items to describe their own parenting behavior, and then a second set of 25 items to describe the parenting behavior of their spouse.

*Child perceptions of parents and of peers.* To assess child perceptions of parents, the wording of the Parenting Practices Rating Scale items were adjusted ("My mom is able to make me feel better when I am upset"). Children completed one set of 25 items to describe their interactions with their mothers and a second set of 25 items to describe their interactions with their fathers. Children used the same set of items to describe their perceptions of peers, with wording adjustments to make the scale relevant for friendship descriptions ("My friends are able to make me feel better when I am upset").

*Construct development.* Initially, maternal reports of parenting practices and child perceptions of parents and of peer relations were submitted to separate factor analyses. (Details are available from the first author upon request.) Although there were some differences in the number of factors that emerged across the three versions of this scale (e.g., parent reports, child reports of parents, child reports of peers), on all versions a clear factorial distinction emerged between items describing positive interactions and negative interactions. Dimensions reflecting warm support and hostile control were computed for each type of report. The internal consistency of the warm support and hostile control scales was good for both mother and child report (alphas ranged from .71 to .93, with an average alpha of .84). All item-total correlations exceeded .30. Warm Support and Hostile Control showed moderate inverse correlations,  $r = -.45$  for maternal self-reports,  $r = -.44$  for maternal reports of spouse,  $r = -.33$  for child reports of mothers,  $r = -.38$  for child reports of fathers, and  $r = -.27$  for child reports of peers. In addition, maternal self-reports of parenting practices were correlated with her reports of her spouse's parenting practices,  $r = .66$  for warm support and  $r = .29$  for hostile control. Similarly, child reports of maternal parenting were correlated with child reports of paternal parenting,  $r = .66$  for warm support and  $r = .53$  for hostile control.

*Child social problem-solving skills.* During the interviews, children were presented with a set of six hypothetical problem stories (Conduct Problems Prevention Research Group, 1999), adapted from the social problem-solving measure used by Dodge, Bates, and Pettit (1990). Three stories described entry problems and three stories described provocation/conflict problems. After the presentation of each story, children were

asked, "What would you do if this happened to you?" Responses were written down verbatim and then coded by the first author and an advanced graduate student. There was good reliability between both raters ( $\kappa = .98$ ). Responses were coded "aggressive" if they contained physical or verbal aggression or threats, and they were coded "assertive/competent" if they suggested a direct, socially competent strategy for solving the problem. (Other response codes included passive/avoidance, adult intervene, withdrawn, and "other"). An Aggressive and Prosocial problem-solving score was derived for each child by summing the percentage of aggressive and assertive/competent responses the child provided out of a possible score of 6 (1 for each story).

*Child social distress.* During individual sociometric interviews conducted at school, children completed five items reflecting loneliness, unhappiness, and difficulty making friends, drawn from the Loneliness Scale (Asher & Wheeler, 1985). Children also answered five questions describing episodes of victimization by peers (e.g., "How many times did someone make fun of you, call you names, or insult you?"). Children responded to all questions using a 4-point Likert scale (1 = *almost never* to 4 = *all of the time*). The two scales showed adequate internal consistency ( $\alpha = .74$  and  $.75$ , respectively) and were moderately intercorrelated ( $r = .39$ ).

*Child social behavior.* Individual sociometric interviews were conducted with all children in participating classrooms who had parental permission (on average 75%–80% of the class members.) Using a class roster as a guide, classmates were asked to nominate children in their class who fit the following descriptions: (a) "Who in your class starts fights, says mean things, and often hits others?" (aggressive behavior), and (b) "Who in your class cooperates, helps others, and shares?" (prosocial behavior). Unlimited nominations were accepted. The number of nominations received by each child was totaled and standardized within class and gender.

*Peer preference and victimization.* Sociometric interviews also provided measures of peer preference and victimization. Classmates were asked to nominate children in their class who they "liked the most" and those who they "liked the least." These sociometric nominations were standardized within class and gender. A social preference score was computed for each child by subtracting the "like least" score from the "like most" score. Classmates also nominated children who fit the following description of being victimized: "Who in your class gets picked on, teased by other kids, hit or pushed around, or called names?" Total nominations were summed and standardized with class and gender.

## RESULTS

### *Preliminary Analyses*

Univariate analyses of variance (ANOVAs) were conducted to assess gender differences in the mean levels of all independent and dependent variables. Only one out of the four measures of parenting practices showed a significant gender effect. Mothers of boys rated themselves as significantly more warm and supportive than did mothers of girls,  $F(1, 138) = 5.40, p < .05$ . No significant differences emerged between girls and boys in terms of their perceptions of warm support and hostile control of parents or peers. Finally, no significant differences emerged for any of the social adjustment indices.

### *Parenting Practices and Child Social Adjustment*

Based on the social learning theory model, it was hypothesized that parenting practices would shape children's social behavior and social problem-solving orientations. By influencing child social behavior, it was anticipated that parenting practices might also affect peer evaluations.

A series of multiple regressions were computed to examine associations between maternal reports of parenting practices and four aspects of child social adjustment: (a) social behavior, (b) social problem solving, (c) peer evaluations, and (d) child reports of social distress. In these regressions, maternal reports of their own and their partners' parenting practices were entered together, in order to fully represent the parenting practices characterizing the child's caregiving system. As shown in Table 1, maternal ratings of supportive parenting practices predicted high levels of child prosocial behavior and low levels of aggressive behavior with peers. In addition, supportive parenting practices predicted prosocial problem-solving responses, and low levels of "like least" nominations by peers. However, no significant correlations emerged between hostile parenting practices and child social behavior or peer responses.

### *Child Perceptions of Parents, Perceptions of Peers, and Social Adjustment*

Representational models suggest that parenting practices will affect child perceptions of their parenting experiences, which in turn will affect child perceptions of their peer relations, social cognition (problem-solving strategies), and child social satisfaction/distress (loneliness, perceived victimization). These hypotheses were tested with two sets of analyses.

*Parenting practices and child perceptions of parents and peers.* Regression analyses were conducted to examine links between parenting practices and child perceptions of parents and peers. Maternal reports showed mild to moderate levels of association with child perceptions (see Table 2, top half). Warm supportive parenting reported by mothers was associated with child perceptions of parental warmth. Conversely, hostile controlling parenting reported by mothers was associated with child perceptions of parental detachment and hostility. While significant, the level of association between maternal reports of parenting practices and child perceptions was only moderate (average  $r = .30$ ), indicating the moderate degree of independence characterizing mother versus child viewpoints of the parenting system. No significant gender differences emerged in the pattern of correlations linking maternal and child reports of parenting practices.

It was hypothesized that children who perceived their parents as warm and supportive would also construct positive views of their relationships with their peers, whereas children who perceived their parents as hostile and punitive would tend to view peer interactions as controlling and conflictual. To test these hypotheses, correlations were computed between child perceptions of parents and child perceptions of peers. As shown in the bottom half of Table 2, children who perceived their parents to be warm and supportive were also likely to report positive and nonconflictual exchanges with peers. In contrast, children who perceived their parents to be hostile and controlling tended to rate their peer interactions as conflictual and nonsupportive. When gender differences in correlations between parents and peers were explored, only one significant gender difference emerged ( $z = 2.09, p < .05$ ), as perceptions of warm mothers and hostile peers were linked significantly (inversely) for boys but not for girls. In general, associations between child perceptions of parents and peers were similar for boys and girls.

It was anticipated that parenting practices would influence the quality of child perceptions of peers but only indirectly through their effect on the subjective appraisals and representations that children constructed of their relationships with their parents. A procedure outlined by Baron and Kenny (1986) was used to test this hypothesis. To demonstrate mediation, three separate effects must be shown: (a) a direct effect of the predictor variable on the outcome variable, (b) a direct effect of the predictor variable on the hypothesized mediator, and (c) a finding that the mediator accounts for a significant amount of the variance in the effect of the predictor on the outcome.

Using hierarchical regression techniques, a composite variable representing warm/nonhostile parenting practices (maternal report) was used

**Table 2.** Relations Between Maternal Reports of Parenting Practices, Child Perceptions of Parents, and Child Perceptions of Peers

<i>Parenting practices and peer perceptions</i>	<i>Child perceptions of parents</i>			
	<i>Maternal support</i>	<i>Paternal support</i>	<i>Maternal hostility</i>	<i>Paternal hostility</i>
Mother-reported parenting practices				
Warm support	.24*	.30**	-.17	.25*
Hostile control	-.25*	-.30**	-.23*	.36***
Child perceptions of peers				
Peer support	.52***	.61***	-.25**	-.17
Peer hostility	-.33***	-.27**	.36***	.45***

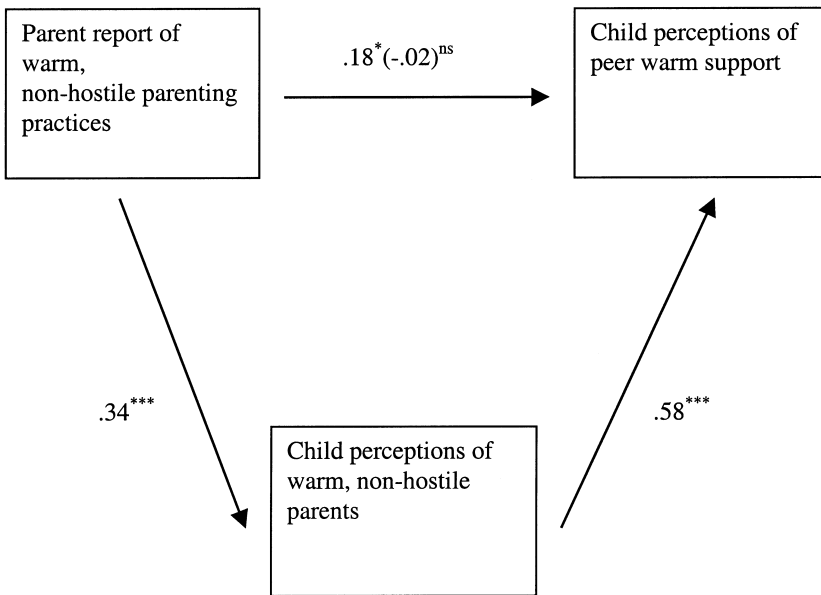
*Note:* Mothers provided ratings of their own and their partner's parenting practices. The scores shown in the top half of this table represent the multiple *R*'s from regressions including both scores.

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

to predict child perceptions of peer support, resulting in a multiple *R* of .18,  $R^2 = .03$ ,  $p < .05$ . Warm/nonhostile parenting practices (maternal report) also predicted child perceptions of parental support, multiple  $R = .34$ ,  $R^2 = .11$ ,  $p < .001$ . When maternal reports of parenting practices were entered into the regression after child perceptions of parents, there was a significant reduction in the direct correlation between parenting practices and child perceptions of peer warm support, multiple  $R = -.02$ ,  $R^2 = .00$ ,  $p > .10$ . As shown in Figure 1, these results indicated that the influence of parenting practices on child perceptions of peer warmth operated via an indirect pathway, through child representations of their relationships with their parents.

In the case of child perceptions of peer hostility, parenting practices (maternal report) was not a significant predictor, multiple  $R = .02$ ,  $R^2 = .00$ . Child perceptions of their parents did, however, significantly predict child perceptions of peer hostility, multiple  $R = .40$ ,  $R^2 = .16$ ,  $p < .001$ . Hence, as predicted by representational models, child perceptions of their relationships with their parents proved to be a significant proximal predictor of child perceptions of peer warmth and peer conflict.

*Child perceptions of parents and peers predicting child social adjustment.* It was hypothesized that child perceptions of parents would influence child social adjustment, particularly in areas of social-cognitive reasoning and feelings of social distress. It was further hypothesized that the impact of child perceptions of parents on social adjustment would be mediated by child perceptions of peers.



\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .  
 Note: Multiple  $R$  shown on arrow. Number in parenthesis is multiple  $R$  after mediating variable has been entered into the model

**Figure 1.** Mediation model linking parent report of warm, nonhostile parenting practices and child perceptions of peer warmth.

First, correlations were computed to evaluate the associations between child perceptions of their relationships with their parents and their social adjustment. As shown in Table 3, child perceptions of their relationships with their parents were not related to peer ratings of their social behavior at school, nor to most indices of peer evaluation. The exception was that children who perceived their mothers to be hostile and controlling received higher levels of “like least” nominations from peers. In contrast, a consistent pattern of significant associations emerged between child perceptions of their relationships with their parents and child feelings of loneliness and peer victimization. Children who experienced their parents as hostile and nonsupportive were more likely to feel lonely at school and to perceive themselves as victimized by peers. Child perceptions of their parents were also linked to their social problem-solving orientations. Perceptions of parental warm support predicted the use of prosocial problem-solving strategies and tended to suppress the use of aggressive problem-solving

**Table 3.** Relations Between Child Perceptions of Parents and Child Social Adjustment

<i>Child social adjustment</i>	<i>Child perceptions of parents</i>			
	<i>Mother warm support</i>	<i>Father warm support</i>	<i>Mother hostile control</i>	<i>Father hostile control</i>
Social behavior				
Prosocial	.00	-.06	-.01	-.10
Aggressive	.00	-.07	.15	-.01
Social problem solving				
Prosocial	.29***	.11	-.03	-.06
Aggressive	-.16	-.18	.19*	.08
Peer evaluation				
Liked least	.02	-.06	.20*	.08
Victimized	.04	.00	.09	.11
Liked most	-.10	-.14	.01	-.08
Social distress				
Loneliness	-.13	-.21*	.19*	.22*
Victimization	-.16	-.20*	.19*	.32***

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

strategies. In contrast, perceptions of maternal hostility predicted the use of aggressive strategies in problematic peer situations.

A similar set of correlations was computed to examine relations between child perceptions of their peer relations and their social adjustment, as shown in Table 4. Parallel to the pattern of associations found for child perceptions of parents, child perceptions of peer relations were not predictive of their social behavior nor of the evaluations they received from peers. However, similar to child perceptions of parents, child perceptions of peer relations were strongly related to their feelings of loneliness and victimization. In addition, children who perceived their friends as warm and supportive were likely to use prosocial strategies and to avoid aggressive strategies when solving hypothetical problems involving peers. Next, regression analyses were undertaken to test the hypothesis that child perceptions of their peer relationships would mediate the influence of child perceptions of parents on child social adjustment.

For the first set of these models, the outcome variables were child aggressive and child prosocial problem-solving strategies. Child perceptions of maternal hostile control predicted the use of aggressive strategies in the problem-solving task,  $R = .19$ ,  $R^2 = .04$ ,  $p < .05$ , and also predicted perceptions of peers as distant and nonsupportive,  $R = .33$ ,  $R^2 = .11$ ,  $p < .001$ . Child perceptions of nonsupportive peers, in turn, predicted child aggressive problem-solving strategies,  $R = .19$ ,  $R^2 = .04$ ,  $p < .05$ . When child per-

**Table 4.** Relations Between Child Perception of Peers and Child Social Adjustment

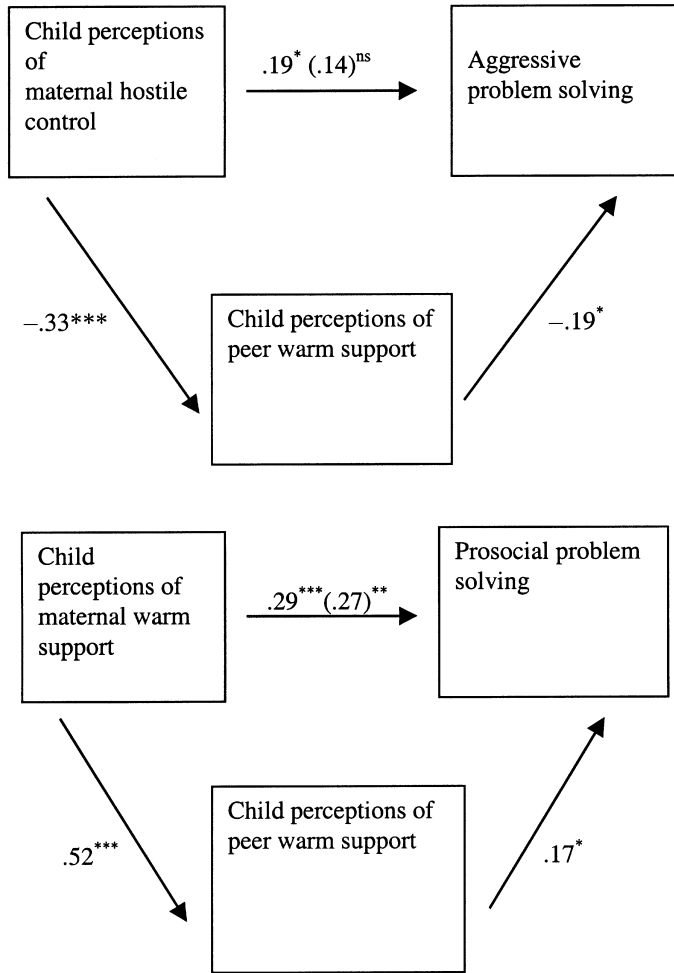
<i>Child social adjustment</i>	<i>Child perceptions of peer relations</i>	
	<i>Warm support</i>	<i>Hostile control</i>
Social behavior		
Prosocial	-.11	.05
Aggressive	.07	-.05
Social problem solving		
Prosocial	.17*	.05
Aggressive	-.19*	.03
Peer evaluations		
Liked least	-.03	.03
Victimized	-.14	-.06
Liked most	-.03	-.05
Social distress		
Loneliness	-.36***	.25**
Victimization	-.24**	.31***

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

ceptions of maternal hostility were entered into the equation predicting child aggressive problem solving after child perceptions of peer relations, they no longer made a significant contribution,  $R = .14$ ,  $R^2 = .02$ ,  $p > .10$ , indicating support for a mediational model. That is, as shown in Figure 2, child perceptions of parental hostility appear associated with the use of aggressive problem-solving strategies because they increase the likelihood that children will form perceptions of peers as distant and nonsupportive.

In a similar set of regressions, child prosocial problem solving was predicted from child perceptions of parents and peers. The results of the regressions indicated a significant level of association between child perceptions of maternal warm support and child prosocial problem solving,  $R = .29$ ,  $R^2 = .08$ ,  $p < .001$ . Child perceptions of maternal warm support also predicted child perceptions of peer warm support,  $R = .52$ ,  $R^2 = .28$ ,  $p < .001$ , which in turn were associated with child prosocial problem solving,  $R = .17$ ,  $R^2 = .03$ ,  $p < .05$ . Finally, in the prediction of child prosocial problem solving, child perceptions of maternal support were entered into the regression equation after child perceptions of peer support. In this equation, child perceptions of maternal support continued to predict child prosocial problem solving,  $R = .27$ ,  $R^2 = .08$ ,  $p < .01$ . As presented in Figure 3, the results indicated that children's perceptions of their mother and peers as warm and supportive each contributed unique variance to the prediction of their prosocial problem solving.

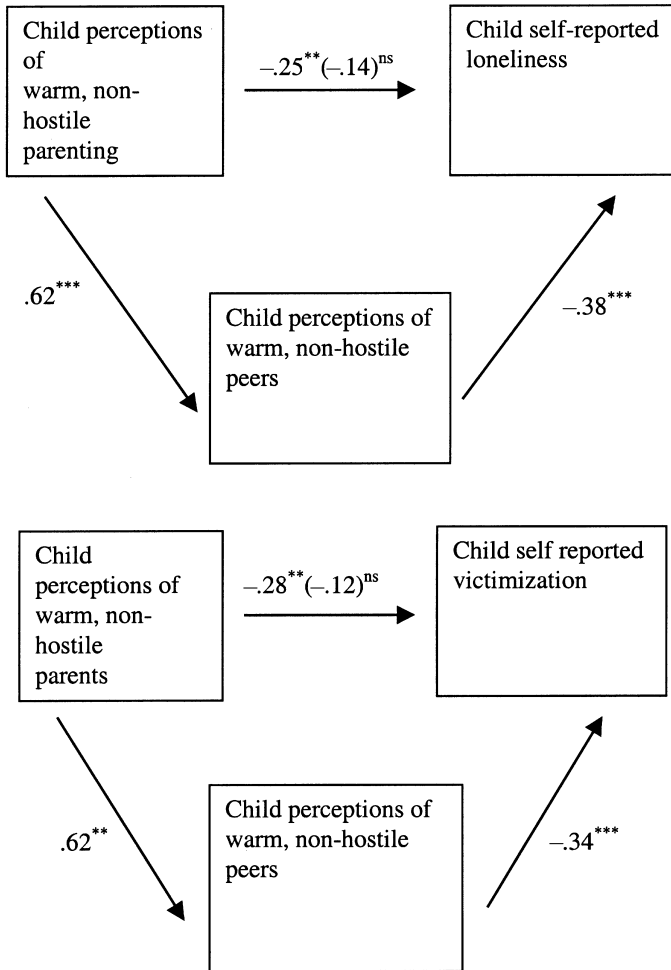




\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Note: Multiple  $R$  shown on arrow. Number in parenthesis is multiple  $R$  after mediating variable has been entered into the model

**Figure 2.** Mediational models linking child perceptions of maternal warm support and child social problem solving



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

Note: Multiple  $R$  shown on arrow. Number in parenthesis is multiple  $R$  after mediating variable has been entered into the model

**Figure 3.** Mediational models linking child perceptions of parents and child social distress

In the final set of models, the outcome variables were two types of child social distress (i.e., loneliness and victimization). First, child self-reported loneliness was predicted from child perceptions of parents and peers. The results of the regression indicated a significant level of association between child perceptions of warm, nonhostile parents and low levels of child loneliness,  $R = -.25$ ,  $R^2 = .06$ ,  $p < .01$ . Child perceptions of warm, nonhostile parents also predicted child perceptions of warm, nonhostile peer relations,  $R = .62$ ,  $R^2 = .38$ ,  $p < .001$ , which in turn were associated with low levels of child loneliness,  $R = -.38$ ,  $R^2 = .14$ ,  $p < .001$ . Finally, to test for mediation in the prediction of child loneliness, child perceptions of warm, nonhostile parents were entered into the regression equation after child perceptions of warm, nonhostile peer relations. In this equation, child perceptions of their parents were no longer predictive of child loneliness once the variance explained by child perceptions of peers was accounted for,  $R = -.14$ ,  $R^2 = .02$ ,  $p > .10$ . As presented in Figure 3, the results indicated that child perceptions of warm, nonhostile parents did protect them from feelings of loneliness, mediated by child perceptions of peers.

In a similar manner, a mediational model was tested to examine the links between child perceptions of parents and peers and their reports of victimization. In hierarchical regressions, child perceptions of warm, non-hostile parents predicted low levels of perceived victimization,  $R = -.28$ ,  $R^2 = .08$ ,  $p < .01$ . Child perceptions of warm, nonhostile parents also predicted child perceptions of their peer relations,  $R = .62$ ,  $R^2 = .38$ ,  $p < .001$ , which in turn were associated with perceived victimization,  $R = -.34$ ,  $R^2 = .12$ ,  $p < .001$ . Finally, in the prediction of perceived victimization, child perceptions of warm, nonhostile parents were entered into the regression equation after child perceptions of warm, nonhostile peer relations. Child perceptions of parents were no longer predictive of victimization once the variance explained by child perceptions of peers was accounted for,  $R = -.12$ ,  $R^2 = .01$ ,  $p > .10$ . As presented in Figure 3, the results indicated that child perceptions of parents contributed to child victimization, mediated by their impact on child perceptions of peers.

## DISCUSSION

In the present study, two kinds of influence were explored to characterize the ways in which parenting practices might be linked with child social adjustment in middle childhood. The results were consistent with the predictions based on social learning theory models (which focus on

the behavior-shaping influence of parenting practices) and representational models (which focus on the cognitive and affective consistency produced by child representational models of relationships.)

Based on the social learning theory model, it was postulated that parenting practices (as reported by mothers) might shape child social behavior and social problem-solving strategies, thus affecting peer evaluations and responses (Putallaz & Heflin, 1990). Indeed, in the present study, warm supportive parenting practices were associated with high levels of child prosocial behavior, low levels of child aggression, high levels of prosocial problem solving, and low levels of aggressive problem solving. In addition, parental warm support protected children from peer dislike. Although the cross-sectional nature of this study design precludes the testing of causal links, the pattern of associations found here is consistent with the social learning theory predictions. Theoretically, by displaying warm and supportive behaviors toward their children, parents provide models of empathic and sensitive social behavior, eliciting similar prosocial behaviors from their children, which they reinforce with praise and affection. When their children apply these learned behaviors in their interactions with peers, they elicit positive responses from peers, protecting them from peer dislike. In addition, the use of inductive reasoning and positive communication with children (parenting practices linked with the expression of warmth and provision of support) may provide children with a better understanding of social norms and may enable children to consider the outcomes and interpersonal impact of their behaviors, facilitating the development of social cognitive reasoning and social problem-solving skills (Eisenberg, 1990; Radke-Yarrow et al., 1983).

It is important to recognize that maternal reports represent a "perspective" on parenting practices and have a certain degree of reporter bias associated with them. Although observational ratings are the ideal data source, parent self-reported measures are often used in their place. In the present study, maternal reports of parenting predicted peer ratings of social behavior, whereas child perceptions of parenting did not, suggesting that mothers were describing parenting practices that were influencing child behavior independent of the child's perceptions of those parenting behaviors. In addition, although our discussion has focused on the impact parenting practices may have on child social behavior, reverse effects also occur, whereby children who exhibit various kinds of social behavior elicit certain kinds of parenting, creating bidirectional and reciprocal influences (Grusec, 1997; Lollis & Kuczynski, 1997). For example, prosocial children may elicit parental praise and affection, whereas temperamentally more difficult children may elicit negative parental responses (Ge et al., 1996).

An alternative pathway of influence linking parenting with child social adjustment was predicted by representational models, which suggest that parenting practices affect child representations of parents and peers, thereby impacting child feelings of social security/distress and their social problem-solving orientations. By constructing representations of relationships, children are able to anticipate the responses they are likely to receive from others and can use this information to guide their behavior, even in novel contexts. Given this function, some researchers have argued that a child's perceptions of their relationships may be more significant than more objective accounts of behavioral exchanges in accounting for continuities across relationships in different contexts, such as parent and peer relations (Armsden & Greenberg, 1987; Deater-Deckard & Dodge, 1997; Rohner et al., 1996; Schaefer, 1965; Veneziano & Rohner, 1998). Theoretically, relationship representations should have a primary influence on aspects of social-emotional adjustment that involve child cognitive and affective appraisals.

Indeed, in the present study, child perceptions of parenting (rather than parenting practices reported by mothers) predicted child feelings of loneliness and perceived victimization by peers. Similar findings were reported by Dubow and Ullman (1989), and Stocker (1994). To some extent, the correspondence between children's perceptions and their self-reported social distress may reflect shared method variance (i.e., they are both child reports). Yet the cohesive perceptions formed by children of themselves and their relationships should not be dismissed merely as "error variance," as they may have a marked influence on the child's psychological well-being. Other researchers have noted that child perceptions of their social competence and their peer relations often bear little correspondence to the view that peers or teachers have of them (Boivin, Thomassin, & Alain, 1989; Patterson et al., 1990). However, even when "inaccurate," child perceptions of peer rejection are as powerful as actual peer rejection in producing sad affect and depressive symptoms (Barden, Garber, Leiman, Ford, & Masters, 1985; Kistner, Balthazor, Risi, & Burton, 1999). Several researchers have found that child's perceptions of peer rejection mediate the relationship between peer-reported rejection and child depression, underscoring the critical role the child's perceptions and interpretations play in their emotional well-being (Panak & Garber, 1992; Kistner et al., 1999).

Interestingly, in the present study, child representations of parent-child and peer relations were not correlated significantly with peer descriptions of child social behavior or peer evaluations (liking, disliking, or victimization). A few previous studies have documented links between

child negative perceptions of parents and observed school behavior problems (Kurdek et al., 1995; Rudolph et al., 1995) or teacher-rated problems (Dubow et al., 1991; Dubow & Tisak, 1989; Rudolph et al., 1995). One prior study also has found links between child perceptions of parents and peer likability nominations (Kurdek & Fine, 1994), whereas another found no significant correlation between child perceptions of family support and peer nominations of social preference or aggression (Dubow & Ullman, 1989). It may be, as postulated by the representational model, that the most proximal link is between representations of relationships with parents and representations of, and feelings about, relations with peers. These are links that are emerging reliably across studies. More distal influences may occur when representations of peer relations influence social behavior in a way that affects peer perceptions and evaluations. Given the multiple determinants of social behavior and peer evaluations, these more distal links may emerge across studies with less reliability.

The lack of congruence between children's social self-perceptions and peer perceptions has sometimes puzzled researchers (Perry et al., 1988). Some children perceive themselves as having negative relationships despite positive and supportive social experiences, whereas other children who are rejected by peers deny feelings of distress and overestimate their acceptance by peers (Boivin et al., 1989; Patterson et al., 1990). To some extent, this lack of correspondence may reflect the absence of clear feedback that would allow children to more accurately gauge their success in the social domain. Children may have limited opportunities to develop norms about how parents or peers should treat them or what the meaning of various treatments may be. Hence, in this area, children's subjective impressions of their relationships may be at odds with parent, teacher, or peer ratings of their social adjustment and yet may play a central role in determining the child's emotional comfort with (or distress about) themselves and their relationships.

Interestingly, in the present study, both maternal reports and child perceptions of parenting practices made contributions to the prediction of child social problem-solving orientations. Different mechanisms may account for this joint influence. Parenting practices may model and shape the behaviors in the child's repertoire that present available strategies for problem solving. In contrast, children's representations of their parent and peer relationships may influence their social problem solving in other ways, by affecting their interpretations of others' actions and their efficacy expectations of how others will respond to various behaviors they may emit (Baldwin, 1992; Main et al., 1985). Notably, child perceptions of peers mediated the impact of child perceptions of parents on child problem-

solving strategies, such that children who perceived their mothers to be supportive and their peers to be warm and nonhostile were likely to avoid aggressive and advocate prosocial problem-solving strategies.

One surprising finding that emerged in the present study was the lack of correspondence between maternal reports of hostile controlling parenting practices and children's aggressive behavior. Although trends emerged linking hostile parenting practices with peer rejection and victimization, the relative strength of these associations may have been attenuated by the nature of the sample, which was relatively small and drawn from a normative sample. Hostile-punitive parenting may have been less prevalent in this sample, and it is possible that the mothers in this study underestimated their use of these practices in an effort to appear socially appropriate. To examine the possibility that sample characteristics might be obscuring relations between hostile parenting and child aggression, we identified a small subgroup of children in the present sample with elevated scores on peer-rated aggression and rejection. The mothers of these aggressive-rejected children did report significantly higher levels of punitive discipline and lower levels of warmth and support than did mothers of nonproblematic children in the sample. Hence, although warm and supportive parenting was most closely linked with child social adjustment in this normative sample, hostile parenting was associated with the social problems of children who were highly aggressive.

### *Suggestions for Future Research*

Future research could benefit from an inclusion of paternal as well as maternal reports of parenting practices. In this study, mothers were asked to report on the parenting practices used by themselves and by their spouse. This strategy allowed us to collect a broader assessment of the parenting practices that characterized the family system than we would have had if mothers had reported on their own parenting alone. However, this method of assessment did not allow us to compare maternal and paternal reports of parenting.

In addition, it would be useful to include a more objective assessment of parenting practices, such as observations of family interactions, which might be less susceptible to rater bias than parent reports. Although it is important to include both parent and child perceptions of parenting practices, a great deal of research still needs to be done to understand the relationship between actual behavior and individual differences in how perceptions of behavior are constructed for both parents and peers. Very few studies have included measures of both parent and child perceptions, and even fewer have also included observational

assessments of actual behavior. This type of study would require extended observations but would be very worthwhile. Accumulating research is also suggesting that it may be important when assessing child perceptions of parenting to assess both what children believe their parents do and how they feel about their parents' practices (Grusec, 1997). Children's feelings about how their parents behave, and their evaluations of the appropriateness of various parenting behaviors, may influence the degree to which certain parenting behaviors (particularly physical discipline) are viewed as rejecting by children and contribute to child behavior problems (Deater-Deckard & Dodge, 1997; Rohner, 1986; Rohner et al., 1996; Veneziano & Rohner, 1998).

In the future, the present study should be replicated with a longitudinal design. Longitudinal follow-up would allow for an assessment of the stability of parenting practices and of children's perceptions of parents and peers and would allow also for the examination of causal predictions. It is highly likely that transactional influences characterize relations between child social functioning in family and peer contexts; a longitudinal design would enable an exploration of reciprocal and bidirectional effects between children's perceptions of parents and peers (Deater-Deckard, 1996). Findings from the behavioral genetic literature support the bidirectionality of influence between parents and children. A number of studies have documented evocative genetically mediated child effects on parental negativity (Ge et al., 1996; O'Connor, Deater-Deckard, Fulker, Rutter, & Plomin, 1998; Pike et al., 1996).

Finally, it is important to conceptualize research on the contributions of parenting to child social adjustment within the context of the larger literature base on the determinants of child social development and social functioning. In the present study, the correlations between parenting practices and children's social adjustment were low to moderate in size. Although it is important to understand how parents may influence child social adjustment in the peer context, one would not expect large effect sizes, particularly by middle childhood. Child social behavior and peer relations are affected by multiple factors. Child characteristics, such as intelligence, physical attractiveness, behavioral organization (attention skills, impulse control), and temperament (emotionality, sociability) may all affect the quality of a child's peer relations in ways that are not highly influenced by parenting practices (Coie, Dodge, & Kupersmidt, 1990). In addition, as children mature and spend more time with children their own age, the characteristics of the peer context and the nature of these interactions have a stronger impact on child social adjustment. Finally, parents may influence their children's success with peers in ways that were not measured in this study.



In the past twenty years, since Hartup (1979) first articulated the importance of the peer context as a "second world of childhood," research devoted to understanding social development in the context of peer relations has flourished. Now, a growing interest in understanding the developmental links between child socialization experiences in family and peer contexts has emerged. The present study suggests that multiple pathways of influence exist, including both the behavior shaping function of parenting practices and the impact parents have on child perceptions of relationships.

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