Reciprocal Negative Affect in Parent-Child Interactions and Children's Peer Competency

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The ability of children to create and maintain relationships with peers is an important facet of their social development and appears to have an important impact on other aspects of their lives. A review by Parker and Asher (1987) revealed that children who suffer poor relations with peers are at risk for dropping out of school and for higher delinquency and criminal rates in adolescence and early adulthood. Prior research suggests that some children are more skilled at interacting with peers than other children (e.g., Coie, Dodge, & Kupersmidt, 1990; Coie & Kupersmidt, 1983; Dodge, 1983; Ladd, 1983; Putallaz, 1983). An important task for future research is to determine the sources of this variability.

The role of Emotional Communication in Early Peer Relationships

Evidence is accumulating to suggest that children's affect displays serve an important role in their social relationships with other children. Early researchers reported that well-liked children frequently displayed positive affect (Bonney, 1943; Gronlund & Anderson, 1957; Kuhlen & Lee, 1943). More recent investigations have supported this early work, reporting that children who display more positive affect tend to be more popular (Denham, McKinley, Couchoud, & Holt, 1990; Sroufe, Schork, Motti, Lawroski, & LaFreniere, 1984), while children who frequently display negative affect are more likely to be rejected by their peers (Stocker & Dunn, 1990). Children may use positive affect signals as "rewards," with smiling and laughing serving to reinforce the play partner behaviors which children find pleasurable (Hartup, Glazer, & Charlesworth, 1967).

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Children's emotional production and recognition skills (i.e., their ability to produce and identify different categories of facial expressions of emotion) appear to be related to peer status. A number of studies have demonstrated that children who are better at producing (Buck, 1975, 1977; Field & Walden, 1982) and identifying (Denham et al., 1990; Edwards, Manstead, & MacDonald, 1984; Field & Walden, 1982) emotional expressions tend to be more popular with peers. Unfortunately, these investigations focused exclusively on facial expressions of emotions in “static” settings (e.g., photographs) and did not explore the impact of emotional displays in dynamic settings (e.g., face-to-face interaction).

Other researchers have illuminated the potential role that emotional displays may play in children's actual interactions with peers. Camras (1977) demonstrated a contingency between children's “aggressive” and “distressed” facial displays and the length of time their play partners allowed them to interact with a desired play object uninterrupted. Lennon and Eisenberg (1987) found that older children were more likely than younger children to use positive affect to facilitate the sharing of a toy. While these studies provide strong evidence that children's facial displays may have an impact upon the course of their interactions with peers, neither of these studies related children's emotional communication behavior to children's peer competency. More recently, research by Eisenberg and her colleagues (Eisenberg et al., 1993; Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994; Fabes & Eisenberg, 1995) has demonstrated that children differ in their strategies for coping with anger and that children's emotionality and emotion regulation skills are related to their peer acceptance.

The Impact of Parent-Child Interaction on Children's Emotional Communication Skills and Peer Competence

In light of the evidence that emotional communication skills may play an important role in children's peer competence, attention has begun to focus on how parent-child interaction may influence these skills. Researchers have identified a number of different ways in which parents may influence their children's emotional development. Parent-child discussions of emotions and emotional experiences (Brown & Dunn, 1989) may influence children's altruistic behavior (Zahn-Waxler, Radke-Yarrow, & King, 1979) and peer competence (Roberts & Strayer, 1987). While these studies demonstrate some of the different ways in which parents may influence their children's emotional development, they cannot tell us about the ways in which emotional displays are exchanged by parents and children in face-to-face interaction. In particular, they cannot address the issue of emotion regulation in parent-child interactions.

While a number of theorists have argued that emotion regulation is an important skill for successful social interaction (Gottman & Katz, 1989; Kopp, 1989; Maccoby, 1983; Parker & Gottman, 1989; Stern, 1977), relatively little is known about the ways in which emotions are regulated. It has been hypothesized that parents may play an important role in helping children to acquire effective emotion regulation skills through parent-child interaction (Parke, Cassidy, Burks, Carson, & Boyum, 1992). By engaging in different behaviors at different times, parents may interact with their children in a manner that serves to maintain an optimal level of arousal in children (Carson, Burks, & Parke, 1993). While the methods parents may use to induce emotion regulation remain unclear, there is considerable evidence that the emotional states of children are particularly vulnerable to displays of parent negative affect.

Children appear to have difficulty regulating their emotions in the presence of adult negative affect displays. Children who are exposed to higher levels of adult negative affect (Cummings, Iannotti, & Zahn-Waxler, 1985) or parental conflict (Gottman & Katz, 1989; Katz & Gottman, 1994) show a number of problems including difficulty in regulating their own negative affect and negative interactions with peers.

Furthermore, exchanges of reciprocal negative affect (responding with negative affect to the negative affect of an interaction partner) have been linked to negative outcomes in both marriage research (Gottman, 1979, 1990) and children with conduct problems (Patterson, 1982; Patterson & Dishion, 1988). The sequence of events involved in reciprocal negative affect exchanges may serve to heighten children's negative arousal. While the act may not be deliberate, it seems likely that responding to a negative affect display with further negative affect is likely to escalate negative arousal. To summarize, while the best way for parents to effectively regulate children's emotions remains unclear, evidence suggests that displaying negative affect is likely to have a detrimental impact.

The purpose of this investigation is to
Carson and Parke examine more closely the relationship between reciprocal negative affect displays in parent-child play and children's peer competency. The paradigm used in this investigation offers a number of advancements over previous studies. First, measures of affect are derived directly from parent-child face-to-face interactions, not from adult interaction contexts. Second, unlike previous studies (e.g., Cummings et al., 1985; Gottman & Katz, 1989), this investigation provides information on children's peer competency in preschool classrooms. Third, parent and child affect displays are measured in a physical play setting. This context is particularly interesting since previous literature has reported a relation between physical play and peer sociometric status in preschool-age (MacDonald, 1987; Parke, Carson, Burks, & Bhavnagri, 1989) and school-age children (Barth & Parke, 1993). It has been hypothesized that parent-child physical play may provide a context for the socialization of emotion regulation skills (Carson et al., 1993; Parke et al., 1992). Furthermore, it is important to examine parent-child interaction in what should be a pleasant interaction setting, since previous studies (e.g., Patterson, 1982; Patterson & Dishion, 1988) which have examined high rates of coercive affect exchange have not done so independently of other nonaffective coercive behaviors. Finally, to learn more about a process which may have a negative impact on both emotion regulation and relationship quality (Gottman, 1979, 1990), a particular focus of this investigation is the exchange of reciprocal negative affect during parent-child interaction. In view of previous work (Gottman, 1979, 1990; Patterson, 1982; Patterson & Dishion, 1988), it is predicted that reciprocal negative affect sequences during parent-child play will be negatively related to peer competence.

Method

Subjects

Participants were 41 (18 male and 23 female) 4- and 5-year-old (range 51–69 months, mean 61 months, SD = 4.79) children and their parents. Children were currently living in the same household with two parents (male and female). Parents had to have been married for at least 2 years to be included in the study. In all but two of the participating families the participants were the biological parents of the target child (both exceptions were seen with their mother and stepfather). Father data could not be obtained for six participants (three girls and three boys), and mother data could not be obtained for one participant (one boy). Participants were predominantly Euro-American but included representatives of other groups, including 1 African-American family, 2 Asian-American families, and 1 Latino family. All children were fluent in English and were recruited from preschools and day-care centers in a large (more than 200,000 inhabitants) West Coast city. Parental permission was obtained through the use of a permission form that was sent home with the children from their schools. Parental consent averaged 86% per classroom (range 76%–100%). The participating 41 children were drawn from a pool of 93 children in six classrooms from five schools. Families received $10 for the first parent-child visit to the play lab and $15 for the second visit.

Overview of Procedure

The study entailed a two-step assessment procedure. First, teachers were asked to complete rating-scale measures of children's peer competency. Second, observations of mother-child and father-child interactions were made during two separate visits to our university play lab. Affect displays during parent-child interactions were then analyzed by trained coders.

Peer Competency Data

Children's preschool teachers were asked to rate a number of attributes for each child involved in the investigation. Teachers were asked to complete seven different five-point scales, rating (1) how good each child was at sharing and taking turns; (2) how frequently children said mean things or used bad words; (3) how frequently children hit, kicked, or bit other children; (4) how frequently children were likely to interrupt class or the play of others; (5) how likely children were to avoid playing with other children; (6) how well liked children were; (7) the extent to which children were not liked by their classmates (Cassidy & Asher, 1992).

Hand Game Administration

After obtaining teacher ratings, families who met the two parent criteria described above were contacted by phone and invited to participate in the second phase of the project, which involved visiting the university play laboratory. Two appointments were scheduled on separate days (one for mother and one for father) for the parents to come to the play lab with their children. Visits typically occurred about a week apart.

All activities were conducted in a car-
peted playroom (19 x 12 feet). In two corners of the room video cameras were mounted near the ceiling and were enclosed in wood and Plexiglas boxes. Camera angles were controlled from an adjoining control room. During the physical play paradigm, a chair and stool were situated approximately 15 inches apart from one another in the center of the room so that each camera could be centered on a participant’s face during the course of the interaction. In addition to being time stamped, a special effects generator was used to split the screen image and to record both participants’ behavior simultaneously onto the videotape.

Procedure

Participants were shown to the playroom, and the cameras and microphones were pointed out to them. After a 5-min warm-up period during which the parent-child dyad was asked to play with plastic blocks, the experimenter (an adult male who had become acquainted with the child participants through school visits) returned and set things up for the physical play interaction, which was referred to as the “hand game.” The participants were then taught the hand game by the experimenter. One participant was instructed to place her hands on her shoulders, and the other participant was instructed to press her palms together and to extend her arms out in front of her body. The object of the game was for the first participant to reach out and grab the second participant’s hands before the second participant could pull them away. The participants played together for 8 min. After completion of the paradigm, parents and children were thanked for their participation and were given a sample tape to code. All coders had become proficient at correctly identifying the affect or behavior displayed by the participant for each second of the 8 min of interaction. Thus, for each parent-child dyad there was a total of 960 and for each family there was a total of 1,920 (one father-child and one mother-child interaction) codes. Coders viewed the videotapes at normal speed and selected a code that they felt best identified the affect or behavior displayed by the participant for each second of the 8 min of interaction. Dyad tapes were coded in two passes by the same coder, coding the child in the first pass and the parent in the second.

Affect Coding

A mutually exclusive and exhaustive coding catalog that utilized facial expressions, vocal cues, body language, and contextual information was devised to code the behavior of parent and child individually for each of the 480 sec of the 8 min of interaction. Thus, for each parent-child dyad there was a total of 960 and for each family there was a total of 1,920 (one father-child and one mother-child interaction) codes. Coders viewed the videotapes at normal speed and selected a code that they felt best identified the affect or behavior displayed by the participant for each second of the 8 min of interaction. Dyad tapes were coded in two passes by the same coder, coding the child in the first pass and the parent in the second. The coding system was based upon systems developed by Gottman (1979) and by Dickstein and Parke (1988). Twelve codes were used in the catalog: happy, laughter, surprise, humor/joking, apologetic, praise, pout/whine, anger, tease, mock, boredom, and neutral. A complete description of the coding system is available from the first author. While the nature of many of the codes may be surmised from their labels, other codes require clarification. Happy and laughter codes were used to differentiate between two levels of intensity for positive affect. The laughter code was used to identify the more intense displays of positive affect which were typically accompanied by some sort of vocal component (e.g., laughing, screeching, or giggling). Humor/joking included making silly sounds or faces in addition to more verbal forms of humor. Sarcastic remarks and humor at the expense of one of the participants were not coded as humor/joking. Mock was a category that was described as one member of the dyad attempting to “duplicate the actions or affect of another in order to tease.” In this manner, mock is defined as a particular type of tease. Finally, neutral was used to categorize any behavior that did not clearly fit into one of the other 12 categories. The majority of the behavior that was coded neutral could best be described as general conversation (e.g., discussing what the child had for lunch at school that day), with no clearly discernible affective tone.

Coding training involved a number of steps and was conducted in a group setting over a 10-week period. Videotapes were coded by 18 undergraduate research assistants who were blind to the children’s social acceptance scores. Prior to being introduced to the coding system used in this investigation, coders were trained to identify facial expressions of emotion using methods described in Ekman and Friesen’s Unmasking the Face (1975). A set of slides (Ekman, 1976) was used to verify undergraduates’ skill at identifying facial expressions of emotions using the criteria from the book. After becoming proficient at correctly identifying the slides, coders then learned the coding system used in this investigation. Upon completion of training, the undergraduates were given a sample tape to code. All coders had to score above the criterion score (Cohen’s kappa > .70) before coding tapes that were included in the final sample. Mean reliability between coders on the training tape was .78 (Cohen’s kappa) using a 2-sec margin of error (range of kappas was .73—.92). To prevent reliability decay every fifth dyad coded was checked for reliability, and reviews
were conducted when necessary to maintain kappas above .70 in all cases.

Results

Data Reduction

Affect codes.—For purposes of sequential analysis, the 12 codes were reduced into two categories: negative and other. Frequencies for pout-whine, anger, tease, mock, and boredom were combined to form the negative category, while all other codes were combined in the other category (see Table 1).

Sequential data.—To examine sequential exchanges of affect between parents and children, Allison-Liker z scores (Allison & Liker, 1982) were computed for the exchange of reciprocal negative affect at lag one. Allison-Liker z scores identify whether particular sequences occur more or less frequently than expected by chance by comparing the conditional probability of an event (e.g., with what frequency do parent negative affect displays occur immediately after children’s negative affect displays) with the unconditional probability (e.g., with what frequency do parent negative affect displays occur throughout the course of the interaction). We focused on the reciprocal negative affect sequences of both parents and children. These sequences involve those times when participants responded to their dyad partner’s negative affect display with a negative affect display of their own in the following second. Dyads in which either participant did not display negative affect were not included in subsequent sequential analyses (11 out of 35 father-child and 9 out of 40 mother-child dyads were excluded). Allison-Liker z scores (see Table 2) were then entered into correlations as indicators of the likelihood of participants to engage in reciprocal negative affect sequences (Bakeman & Gottman, 1986).

The Relationship between Reciprocal Negative Affect Sequences and Social Competency

Pearson correlations were used to examine the relationship between Allison-Liker z scores of reciprocal negative affect sequences in parent-child physical play and teacher ratings of children’s peer competency. Separate Pearson correlation matrices were calculated for children’s interactions with mothers and fathers (see Table 3). Fathers who were more likely to respond to their children’s negative affect displays with negative affect of their own had children who shared less, \( r(22) = - .57, p < .01 \), were more verbally aggressive, \( r(22) = .57, p < .01 \), and avoided others, \( r(22) = .40, p < .05 \). The children of these fathers also tended to be more physically aggressive, \( r(22) = .34, p < .10 \). Children who were more likely to respond to their fathers’ negative affect displays with negative affect of their own were more physically aggressive, \( r(22) = .62, p < .01 \).

The Relationship between Parent and Child Reciprocal Negative Affect Sequences

Pearson correlations were used to examine the relation between parent and child negative affect sequences. Parents who were more likely to engage in negative affect sequences had children who were also likely to do so. This was true for both father-child, \( r(22) = .50, p < .01 \), and mother-child interactions, \( r(29) = .85, p < .01 \).

Discussion

This investigation revealed that fathers who are more likely to respond to their children’s negative affect displays with negative affect displays of their own have children who are less socially skilled than their preschool classmates. In particular, children of fathers who are more likely to engage in reciprocal negative affect sequences had children who were also likely to do so. There was also a trend for these children to be more physically aggressive, and avoid others. There was also a trend for these children to be more physically aggressive. Children who were more likely to respond to fathers’ negative affect displays with negative affect of their own were described by their teachers as being more physically aggressive. The results suggest that reciprocal negative sequences in father-child physical play may be associated with low peer competency. A variety of processes may account for the observed links between father-child interaction and teacher ratings of peer competence.

### Table 1

<table>
<thead>
<tr>
<th>GROUP</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>460.03</td>
<td>23.34</td>
<td>19.97</td>
<td>23.24</td>
<td>35</td>
</tr>
<tr>
<td>Child</td>
<td>461.66</td>
<td>24.83</td>
<td>18.34</td>
<td>24.83</td>
<td>35</td>
</tr>
<tr>
<td>Mother</td>
<td>460.45</td>
<td>32.61</td>
<td>19.55</td>
<td>32.61</td>
<td>40</td>
</tr>
<tr>
<td>Child</td>
<td>457.46</td>
<td>33.90</td>
<td>22.53</td>
<td>33.90</td>
<td>40</td>
</tr>
</tbody>
</table>

Note.—Maximum number of seconds = 480.
TABLE 2

MEANS AND STANDARD DEVIATIONS FOR CONDITIONAL AND UNCONDITIONAL PROBABILITIES AND Z-SCORES FOR SEQUENTIAL NEGATIVE AFFECT

<table>
<thead>
<tr>
<th>GROUP</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>.11</td>
<td>.17</td>
<td>.06</td>
<td>.05</td>
<td>.64</td>
<td>1.74</td>
<td>24</td>
</tr>
<tr>
<td>Child</td>
<td>.06</td>
<td>.10</td>
<td>.05</td>
<td>.06</td>
<td>.15</td>
<td>1.50</td>
<td>24</td>
</tr>
<tr>
<td>Mother</td>
<td>.10</td>
<td>.23</td>
<td>.05</td>
<td>.07</td>
<td>.83</td>
<td>2.31</td>
<td>31</td>
</tr>
<tr>
<td>Child</td>
<td>.09</td>
<td>.14</td>
<td>.06</td>
<td>.08</td>
<td>.56</td>
<td>1.84</td>
<td>31</td>
</tr>
</tbody>
</table>

*Conditional probability of sequential negative affect, with group negative affect display as consequent event and partner negative affect as antecedent event.

**Unconditional probability of negative affect for group.

"Allison-Liker z scores.

One plausible explanation involves the previously observed pattern of overstimulation found in the physical play interactions of rejected boys and their fathers (MacDonald, 1987).

Alternatively, these findings may be the result of a more cognitive process. The reciprocal negative affect sequences of fathers may be teaching children to respond to the negative affect displays of others with negative affect displays of their own. This pattern of reacting to negative affect may then generalize to interactions with peers. Less well accepted children may develop expectations concerning how their emotions will be responded to, which, in turn, might also condition how they will react to the provocations or anger displays of others (Dodge, 1986). This argument is consistent with Dodge and Frame (1982), who suggest that negative behaviors elicit negative reactions from peers that serve to maintain patterns of maladaptive behavior. Support for this hypothesis is

TABLE 3

CORRELATIONS BETWEEN RECIPROCAL NEGATIVE AFFECT SEQUENCES AND SOCIAL COMPETENCE MEASURES

<table>
<thead>
<tr>
<th></th>
<th>Father</th>
<th>Child</th>
<th>Mother</th>
<th>Child</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 24)</td>
<td>(n = 24)</td>
<td>(n = 31)</td>
<td>(n = 31)</td>
</tr>
<tr>
<td>Share</td>
<td>-.57**</td>
<td>-.30</td>
<td>.07</td>
<td>.05</td>
</tr>
<tr>
<td>Say mean things</td>
<td>.57**</td>
<td>.29</td>
<td>-.18</td>
<td>-.11</td>
</tr>
<tr>
<td>Interrupt</td>
<td>-.05</td>
<td>-.03</td>
<td>.23</td>
<td>.22</td>
</tr>
<tr>
<td>Hit</td>
<td>.34*</td>
<td>.62**</td>
<td>-.12</td>
<td>-.02</td>
</tr>
<tr>
<td>Avoid</td>
<td>.40*</td>
<td>.18</td>
<td>-.06</td>
<td>-.09</td>
</tr>
<tr>
<td>Not liked</td>
<td>.29</td>
<td>.28</td>
<td>.08</td>
<td>.00</td>
</tr>
<tr>
<td>Well liked</td>
<td>.03</td>
<td>-.15</td>
<td>-.07</td>
<td>.05</td>
</tr>
</tbody>
</table>

NOTE.—Values are Pearson rs.

*Antecedent child negative affect; consequent parent negative affect.

**Antecedent parent negative affect; consequent child negative affect.

*p < .10.

**p < .05.

**p < .01.
provided by the finding that fathers who were more likely to engage in reciprocal negative affect sequences had children who were also more likely to do so.

A third possible explanation may be that by engaging in these sequences, fathers may teach children to escalate conflict (Patterson, 1982). As a result of their interactions with fathers, children may then have a tendency to engage in this type of escalation during play with peers, and this escalation may lead to aggression. This hypothesis fits with the results from this investigation inasmuch as children who were more likely to respond to their fathers’ negative affect displays with negative affect of their own were rated by their teachers as more aggressive. However, the link between fathers’ reciprocal negative affect behavior and teacher-rated aggression was not as strong as might have been expected under this hypothesis.

A related explanation involves observational learning (Bandura, 1989). Children who receive parental negative affect in response to their own negative affect displays may learn through modeling to continue this pattern in their subsequent social interactions. Evidence in support of this view comes from an earlier study in which children who were exposed to a punishing adult in a game-like context were, in turn, more likely to use similar punitive techniques during a subsequent teaching task with a peer (Gelfand et al., 1974).

A final possible explanation is that children who experience negative affect in response to their own affect displays become less positive toward interacting with others, and they may avoid social contact. This tendency to avoid contact with others may lead to a decrease in opportunities for stimulating social development. This explanation is supported by the finding that fathers who were more likely to engage in negative affect sequences had children who were rated by classroom teachers as being more likely to avoid others.

Although the frequencies of negative affect that were observed in this study were relatively low, the underlying assumption of using a lab-based assessment paradigm is that it taps probable processes that occur more frequently in real-life contexts. Over the course of years of repeated daily interactions between parents and children, patterns of behaviors and expectations develop that generalize to their interactions with peers. The relations found in the present study and in other lab-based investigations are, in a sense, an index of this history of prior interchanges. Children are not learning from a few seconds of negative reciprocal interchanges, but instead from a long series of such experiences over the course of their socialization history.

It may seem puzzling that mother-child negative affect sequences do not predict child social competency in a fashion similar to father-child sequences. A number of factors may account for these differences. First and foremost, we know that mothers are less likely than fathers to engage in the type of physical play featured in this protocol (Lamb, 1987; MacDonald & Parke, 1984; Parke & Tinsley, 1987). Previous studies have reported stronger links between physical play and children’s peer competency for father-child rather than mother-child dyads (MacDonald, 1987; Parke et al., 1989). The relative infrequency of this type of interaction between mothers and children may account for this lack of a relation between mother reciprocal negative affect sequences and children’s social outcomes. Since they occur so infrequently, these types of interactions may be less likely to influence the course of children’s social development. A second possibility may be that irrespective of the frequency of reciprocal negative affect displays, aggression or physical roughhousing may be less likely to occur during mother-child play. Even when mothers and children get upset with one another, they may not be likely to become aggressive. It may be that mothers are much better at, or are more insistent about, preventing the occurrence of aggressive behavior during interaction. On the other hand, escalation to aggression may be a much more likely outcome of a negative affect exchange in father-child interactions. Thus it may be that negative affect sequences may be linked to aggression in father-child interactions, and aggressive behavior, in turn, may be responsible for the association found in this investigation between reciprocal negative affect displays and children’s peer competency. Further investigation featuring more naturalistic observations may provide insight into different links between the exchange of reciprocal negative affect displays and aggressive behavior in mother versus father-child play. In addition, other paradigms using different play tasks may provide more insight into possible processes that underlie mother’s influences on children’s emotional communication and regulation skills.
Further investigation is also needed to determine the role of stable individual child characteristics such as temperament in the exchange of parent-child affect displays. This issue could be addressed to some extent by using either a sibling design, in which parents and children from the same family are seen interacting with one another, or a cross-parenting design in which parents and children from different families interact with one another (Lytton, 1990). In this way it may be possible to more fully assess the bidirectional nature of parent-child interaction.

The findings from this investigation demonstrate that the hand game paradigm used in this research provides an effective context for examining the quality of parent-child interaction during physical play, especially father-child interaction. The development of this paradigm may be seen as an important step in examining the impact of the quality of parent-child play upon children's relations with peers. However, this paradigm would benefit from a closer examination of the specific behaviors (e.g., children's misbehavior) in addition to affect cues that may serve to elicit emotional reactions in dyad members. In addition, it is important to know more about the outcomes of reciprocal negative affect sequences, especially if such outcomes are more likely to lead to aggression in father-child than in mother-child interactions. In the future, this paradigm may also serve in the study of child-peer interchanges. Such observations are needed to more adequately address the issue of the role of emotion in child-peer interaction.

Finally, the results of this study have implications for intervention on behalf of children with peer problems. This work as well as other research in this tradition (Parke & Ladd, 1992) suggests that it would be profitable to focus on parent-child interaction patterns as a locus of intervention. Perhaps a combination of school-based intervention (e.g., Asher, 1985; Mize & Ladd, 1990) as well as family-based procedures would yield more stable and generalized shifts in peer competence. This project provides further evidence that targeting emotional communication in the family, especially the reduction of negative interchanges, would be an appropriate goal of intervention strategies (Patterson, 1982; Patterson & Dishion, 1988). A theory-guided intervention program would also offer the opportunity to test the role of emotional processes in accounting for family-peer linkages. Since planned interventions are in fact experimental, they would provide an evaluation of the direction of effects issue as well. Greater use of family-based intervention strategies would have both theoretical and practical value.

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