Published in final edited form as:

Pers Relatsh. 2010 September 1; 17(3): 357–376. doi:10.1111/j.1475-6811.2010.01284.x.

Marital Aggression and Child Peer Competence: A Comparison of Three Conceptual Models

Brent Finger, Rina D. Eiden, Ellen P. Edwards, Kenneth E. Leonard, and Lorig Kachadourian

State University of New York at Buffalo

Abstract

This study examined longitudinal data linking marital aggression with child peer competence in kindergarten. The study compared three conceptual models for understanding the relation between marital aggression and child peer competence. Model 1 examines the direct effects of marital aggression, parental alcoholism, and parenting on child peer competence, model 2 posits that this relation is mediated by child social problem solving abilities (social information processing theory), while model 3 proposes that the relation is mediated by parental warmth/sensitivity (spillover theory). Structural Equation Modeling was most supportive of models 1 and 3 indicating that parenting behavior, but not social problem solving, partially mediates the relation between marital conflict and child peer competence.

The development of peer competence is a central facet of children's adjustment. Problematic peer relationships have been linked to a wide range of adverse outcomes including academic difficulties, behavior problems, and mental illness (Bagwell, Newcomb, & Bukowski, 1998; Ladd & Troop-Gordon, 2003; Parker & Asher, 1987). To this point, however, less is known about the processes involved in developing peer competence than on its consequences. Family environments provide children with their earliest opportunities for observing and participating in social interaction and are likely to have a formative impact on their developing peer relationships. Marital conflict, in particular, has been linked to variety of child social disturbances including problematic peer and sibling relationships (Stocker & Youngblade, 1999), conflict with friends (Hipwell, Murray, Ducournau, & Stein, 2005; McCloskey & Stuewig, 2001), aggressive play (Graham-Bermann & Levendosky, 1997), and poor social problem solving skills (Goodman, Barfoot, Frye, & Belli, 1999).

The current study aims to examine the association between marital conflict and peer competence as well as the contributing role of parenting behavior and child social problem solving in accounting for any such link within a sample of 5 year old children of alcoholic fathers and carefully matched comparison children. Previous research indicates that children of alcoholics are particularly likely to encounter elevated levels of parental conflict (Leonard & Roberts, 1998; O'Farrell, Murphy, Neavins, & Van Hutton, 2000), thus allowing for increased variability on this measure. Data analyses will focus on comparing three conceptual models for explicating associations between marital conflict and peer competence: one indicating that social problem solving mediates the relation between marital conflict and child peer competence, one indicating that parenting behavior mediates this relation, and one indicating that marital conflict influences child peer competence directly. Parents' alcoholism will be treated primarily as a covariate in these analyses as it is not of substantive theoretical interest.

Social Information Processing Theory

Research guided by social information-processing models has been used to explore cognitive processes by which children interpret and respond to social situations. These approaches typically maintain that social cognitions are the mechanisms leading to social behaviors and ultimately to peer competence. Crick and Dodge (1994) proposed that children's social responses involve six stages: encoding pertinent internal and external cues, interpreting and representing those cues, formulating a goal, considering possible responses, selecting a response, and enacting that response. One's ability to perform these steps proficiently is believed to contribute to peer competence. Conversely, various information processing biases at each stage are believed to account for individual differences in peer behavior and, in turn, varying degrees of peer competence.

This model also maintains that these social information processes are shaped by past experience observing and participating in social transactions. Such encounters are believed to be stored in long-term memory and integrated with other memories so as to form the basis of a generalized representational structure that serves as a template for guiding social behavior. From this point of view, cognitive processes that provide rules and strategies for negotiating conflicts would mediate the relation between marital conflict and peer competence.

One widely used method for eliciting children's social cognition is to ask them to provide responses to hypothetical vignettes depicting peer provocation (e.g., Dodge & Price, 1994). Such research has consistently revealed associations between child response and peer status. Sociometrically popular children tend to respond to these vignettes by generating assertive, non-aggressive, prosocial, and relationship-enhancing solutions, (Erwin, 1994; Renshaw & Asher, 1983; Rubin & Daniels-Bierness, 1983) while unpopular children are more likely to provide aggressive, avoidant (Bryant, 1992), and adult-seeking strategies (Chung & Asher, 1996). Behavioral measures of social functioning have also revealed that aggressive children offer more aggressive solutions (Dodge, Price, Bachorowski, & Newman, 1990; Slaby & Guerra, 1988) while socially withdrawn children are more likely to suggest unassertive solution involving avoidance, appeasement (Burgess, Wojslawowicz, Rubin, Rose-Kransor, & Booth-LaForce, 2006), or adult intervention (Rubin, Daniels-Beirness, & Bream, 1984).

To this point, four published studies have examined correspondences between marital conflict and children's social problem solving strategies. Rosenberg (1987) reported that children who had witnessed interparental violence tended to select either passive or aggressive solutions to peer conflict. Goodman, Barfoot, Frye, and Belli (1999) found that maternal reports of aggressive marital conflict tactics and conflict escalation predicted less effective social problem-solving strategies among their 10-13 year old children, particularly aggressive solutions. The same finding was not revealed for father reports. However, positive characteristics of fathers' conflict resolution significantly predicted effective child problem solving. In a study involving 7-13 year old children, Marcus, Lindahl, and Malik (2001) found that children's aggressive problem solving solutions mediated the relation between interparental conflict and children's aggressive behavior at school, but not their aggressive behavior at home. Finally, Duman and Margolin (2007) discovered that children's aggressive problem solving strategies corresponded with same-sex parents' reported marital aggression. To this point, no published studies have examined child social problem solving in mediating the link between marital conflict and child peer competence. The current study is designed to test a conceptual model for assessing the mediating role of social problem solving.

Spillover Theory

A number of researchers have proposed that disrupted parenting mediates the relation between marital conflict and child adjustment. Central to this framework is the “spillover hypothesis” which maintains that negative emotion experienced in the marital relationship spills over into parent-child relationships and ultimately accounts for adverse child outcomes (Engfer, 1988). Results of two meta-analyses reveal moderate effect sizes linking marital conflict to parenting disturbances (Erel & Burman, 1995; Krishnakumar & Buehler, 2000). Several overlapping explanations have been proposed to account for this effect. For example, marital tensions may operate as a generalized source of stress that amplifies one’s irritation with other stressors, including parenting demands. Similarly, parents’ inability to openly discuss or resolve marital disputes may lead to an excess of negative interpersonal emotion that become displaced onto the parent’s representation of and interaction with his or her child. Fauber, Forehand, Thomas, and Wiersen (1990) propose that this process may help to reduce marital strain, but only at a compensatory cost to the parent-child relationship.

In certain circumstances, preoccupation with marital difficulties may limit a parent’s emotional investment in other significant relationships, and lead to a passive or withdrawn style of interaction. Evidence indicates that elevated parental conflict is not only associated with intrusive and controlling parenting (Bradford & Barber, 2005), but also with less warmth, less emotional availability, and greater parental withdrawal (Fauchier & Margolin 2004; Mann & MacKenzie, 1996). Finally, some have suggested that the co-parental relationship, or relationships between marital partners in their role as parents, has a significant impact on parenting behavior (Bonds & Gondoli, 2007). Since parenting presents a frequent topic of dispute between parents (Block, Block, & Morrison, 1981), couples who experience difficulties resolving conflicts may fail to agree upon childrearing tactics, and consequently fail to coordinate compatible strategies for reinforcing desired child behaviors (Lindsey & Mize, 2001).

Although numerous models have hypothesized that parenting quality mediates the effects of marital conflict on child outcome, these models differ in the strength they attribute to the mediating effects. Some models propose that parenting processes present one of many influences on children, and thus presume that parenting is only a partial mediator of the harmful effects of parental conflict (Davies & Cummings 1994; Gottman & Katz, 1989; Grych & Fincham, 1990). Stronger models, in contrast, propose that parenting presents the primary mediator of marital conflict (Erel, Margolin, & John, 1998; Fauber & Long, 1991). Studies assessing these differences have been largely inconclusive with some supporting full mediation (Fauber et al., 1990; Mann & MacKenzie, 1996), some supporting partial mediation (Buehler & Gerard, 2002), and still others failing to support mediation (Peterson & Zill, 1986).

These conflicting findings may result from the inconsistent selection of outcome measures across studies, as the spillover effects of marital conflict may impact some domains of child functioning more than others. To this point, only four published studies have examined the spillover model in relation to child peer competence. Gottman and Katz (1989) found that maritally-distressed couples were more likely to exhibit a cold, angry, and unresponsive parenting style that, in turn, predicted lower levels of peer interaction and more negative peer interaction among their 4 to 5 year-old children. In a study involving 7 to 11 year old children, Stocker and Youngblade (1999) report that paternal hostility mediated the association between marital conflict and problematic peer relationships. Maternal hostility, in contrast, did not mediate the relation between these two variables. Another project found no direct connection between marital conflict and peer competence among 7 to 9 year old male offspring. However, marital conflict was found to impact peer relationships indirectly

through its effects on limited emotional reciprocity between mothers and sons (Lindsey, MacKinnon-Lewis, Campbell, Frabutt, & Lamb, 2002). Finally, in contrast to the preceding studies, Hipwell et al. (2005) reported a direct connection between parental conflict and children's aggressive play with a friend that was not mediated by mother-child interaction.

The preceding findings add to a body of evidence suggesting that spillover effects may vary in relation to parent gender. The role of gender in accounting for these effects, however, has not yet been examined in a comprehensive manner and has yielded inconsistent results across studies. Some findings indicate men are more likely to cope with marital conflict through ignoring or stonewalling their wives (Gottman & Levenson, 1988; Margolin, 1988) and that marital discord is similarly related to fathers' withdrawal from other family involvements including their relationships with their children (Howes & Markman, 1989; Kitzman, 2000). Conversely, Lindahl and Malik (1999) reported that marital distress is related to critical, coercive and non-supportive behavior for fathers, but is primarily related to withdrawal for mothers.

Mothers and fathers have also been found to display separate styles of parenting behavior that may have differential effects on child social outcome. Mothers have been shown to be more involved in most caretaking activities and in responding sensitively to children in times of distress. Maternal sensitive responsiveness has been linked to secure infant-mother attachment (Ainsworth, 1979) that, in turn, has been found to predict subsequent peer competence throughout childhood (Schneider, Atkinson, & Tardif, 2001). Similar associations, however, have not been consistently demonstrated for fathers, who are less frequently involved in the provision of sensitive care and more likely to engage their children in physical play (Grossmann et al., 2002; Lamb, 1997). Paquette (2004) asserts that this physical activity provides children opportunities for learning the communicative value of affective displays in self and others that are particularly relevant to the development of peer competence.

Two studies found that fathers' physical play involvement, but not mothers', was related to children's positive peer relations, especially for boys (MacDonald & Parke, 1984; Pettit, Brown, Mize, & Lindsey, 1998). Additionally, while emotional expressivity in both parents has been linked to child social behavior, several studies have found that fathers' positive expressiveness predicts child socio-emotional expressiveness above and beyond that of mothers' positive expressiveness (Boyum & Parke, 1995; Garner, Robertson, & Smith 1997). Conversely, Carson and Parke (1996) report that children whose fathers respond to their negative affect during physical play with negative affect of their own were observed to display more aggressive and avoidant social behaviors with peers. Finally, McDowell, Parke, and Wang (2003) report that fathers' advice giving style on dilemmas involving peer relationships was a more robust predictor of peer and teacher ratings of child peer competence than was mothers' advice giving style.

Direct Effects Theory

Several theoretical approaches favor the idea that marital conflict may have a direct impact on child social functioning. Explanations emphasizing observational learning posit that children acquire maladaptive social skills by witnessing and imitating the problematic conflict tactics modeled by others in their immediate environment. In one landmark study examining observational learning of aggressive behavior, Bandura, Ross, and Ross (1961) found that preschool children exposed to an adult modeling aggressive behavior were more likely to display aggressive behavior in response to frustration during a subsequent paradigm than children exposed to a non-aggressive model and control children who were not exposed to models. Furthermore, the aggressive acts children displayed were found to resemble the specific acts they had recently observed. In an extension of this line of inquiry, Hicks (1965)

discovered that children could reproduce the aggressive acts they had been exposed to up to 8 months later.

Evidence of observational learning suggests that imitation can serve as a relatively spontaneous social response that need not access the complexities of social-cognitive problem solving strategies. The influence of observed behavior may be more pronounced among younger children who have yet to develop certain cognitive capacities associated with social problem solving. In support of this view, Guerra, Huesmann, and Spindler (2003) found that exposure to community violence predicted aggressive behavior among 5 to 8 year old as well as 9 to 12 year-old children, while the effects of social cognition were only evident among the latter age group. They propose that children initially develop aggressive behavior patterns by imitating observed behavior and only later develop problematic cognitions that correspond to their pre-existing behavior patterns. Such cognitions, in turn, contribute to continued social aggression as thought patterns become more stable throughout the later elementary school years.

Additional research indicates that children respond to marital conflict with emotional and behavioral dysregulation rather than imitation. Cummings and colleagues have found that young children typically respond to simulated conflict with distress responses that rarely resemble observed behaviors (Cummings, Iannotti, & Zahn-Waxler 1985; Cummings, Pellegrini, Notarius, & Cummings 1989; Cummings, Zahn-Waxler, & Radke-Yarrow 1981). Furthermore, although children were observed to behave more aggressively with peers following conflict exposure, aggressive behaviors were more characteristic of aggression among young peers than that of the adult hostilities to which they were exposed. This evidence supports the claim that the effects of marital conflict on child peer competence are at least partially mediated by children's heightened emotionality. It remains unclear to what extent these emotional responses may lead to the development of cognitive biases associated with poor social problem solving. Possibly, under certain circumstances, emotional distress stimulates instinctive behavioral responses that are not dependent on higher order cognitive operations involved in problem solving tasks. In sum, behavioral modeling and heightened emotionality during marital conflict may account for peer competence outcomes not accounted for by social problem solving or parenting.

The present study will test a conceptual model of the spillover effects of marital conflict on parenting and child social competence. Given the inconsistent findings with regard to parent gender, we offer no a priori hypothesis concerning the relative impact of maternal versus paternal parenting behavior.

This study aims to compare three conceptual models for explaining the relation between marital conflict and child peer competence while controlling for parental alcoholism. Our direct effects model evaluates the effects of marital aggression on social competence after controlling for parental alcohol use, our social information processing model examines the mediating role of social problem solving in explaining these effects, while our spillover model examines the mediating role of parenting behavior in explaining these effects.

Method

Participants

The sample consists of 227 families with 12 month old infants at recruitment (111 girls and 116 boys). Families were classified as being in one of two major groups: a group consisting of light drinking or abstaining parents (or the NA group; $n = 97$), and a group consisting of families with at least one parent with alcohol problems (or the FA group; $n = 130$). Within the FA group, 96 families had one parent (in 94% of families, this was the father) with

alcohol problems while the other parent drank lightly or abstained. In the remaining 34 families, fathers met criteria for alcohol abuse or dependence and mothers either met similar criteria or drank heavily but did not acknowledge any alcohol problems (BA group).

The majority of the parents in the study were Caucasian (94% of mothers and 87% of fathers), approximately 5% were African-Americans and, and 1% were Hispanic or Native American. Although parental education ranged from less than high school degree to a graduate degree, about half the mothers (57%) and fathers (55%) had received some higher education or had a college degree. Annual family income ranged from \$4,000 to \$95,000 ($M = \$41,824$, $SD = \$19,423$). At the first assessment, mothers were residing with the biological father of the infant in the study. Most of the parents were married to each other (88%). At recruitment, mothers' age ranged from 19 to 40 ($M = 30.4$, $SD = 4.58$). Fathers' age ranged from 21 to 58 ($M = 32.9$, $SD = 6.06$). About 61% of the mothers and 91% of the fathers were working outside the home at the initial assessment. About 68% of the families had one to two children, including the target child. Thus, the majority of the families were middle-income, Caucasian families with one to two children in the household at recruitment.

Procedure

The names and addresses of these families were obtained from the New York State birth records for Erie County. These birth records were pre-selected to exclude families with premature (gestational age of 35 weeks or less), or low birth weight infants (birth weight of less than 2500 grams); maternal age of less than 18 years or greater than 40 years at the time of the infant's birth; plural births (e.g., twins); and infants with congenital anomalies, palsies, or drug withdrawal symptoms. Introductory letters were sent to a large number of families ($n = 9,457$) who met the above mentioned basic eligibility criteria when the child was approximately 11 months of age. Each letter included a form that all families were asked to complete and return (response rate = 25%). Of these, about 2,285 replies (96%) indicated an interest in the study. Only a handful of the replies ($n = 97$ or 4%) indicated lack of interest. Respondents were compared to the overall population with respect to information collected on the birth records. These analyses indicated a slight tendency for infants of responders to have higher Apgar scores, higher birth weight, and higher number of prenatal visits. Means for non-responders vs. responders were 8.94 and 8.97 for Apgar scores, 3,460 and 3,516 grams for birth weight, and 10.31 and 10.50 for number of prenatal visits. Responders also were more likely to be Caucasian (88% of total births vs. 91% of responders), have higher educational levels, and have a female infant. These differences were significant given the large sample size, even though the size of the differences was minimal (*effect size Cohen's $d < .22$ in all analyses*).

Parents who indicated an interest in the study were screened by telephone with regard to sociodemographic characteristics and additional eligibility criteria. We first sought to identify families eligible for the alcoholic parent group (both FA and BA) and then matched them with families from our much larger group of eligible non-alcoholic families on race/ethnicity, maternal education, child gender, parity, and marital status. Initial inclusion criteria included the following: parents were primary caregivers and cohabiting since the infant's birth, the infant was the youngest child, did not have any major medical problems, and had not been separated from the mother for more than a week, and the mother was not pregnant at the time of recruitment. Additional inclusion criteria were utilized to minimize the possibility that any observed infant behaviors could be the result of prenatal exposure to drugs or heavy alcohol use: mothers could not have used drugs during pregnancy or past year (except for less than two instances of marijuana use), mothers' average drinking was less than 1 drink a day during pregnancy, mothers did not drink 5 or more drinks on a single occasion during pregnancy. Women who reported drinking moderate to heavy amounts of alcohol during pregnancy (see criteria above) were excluded from the study in order to

control for potential fetal alcohol effects. Families visited the Institute and completed questionnaires at five different child ages (12, 18, 24, 36 months, and upon entry into kindergarten), with three visits at each age. A parent questionnaire assessment was also conducted at 48 months. Informed written consents were obtained from both parents and extensive observational assessments with both parents were conducted at each age. This paper focuses on the 12, 18, 24 month and kindergarten questionnaires, interviews, and observational assessments. At each assessment age, mother-child observations were conducted at the first visit and father-child observations were conducted 4-6 weeks later. At the kindergarten assessment, teachers were contacted in the spring of the kindergarten year for completion of teacher reports.

Measures

Parental alcohol use: During the phone screen, mothers were administered the Family History Research Diagnostic Criteria for alcoholism (Andreason, Rice, Endicott, Reich, & Coryell, 1986) with regard to their partners drinking, and fathers were screened for their alcohol use, problems, and treatment. Self-report versions with more detailed questions were also used to enhance the alcohol data and check consistent reporting. The UM-CIDI interview (Anthony, Warner, & Kessler, 1994; Kessler et al., 1994) was used to assess alcohol abuse and dependence at 12, 18, and 24 months. Several questions of the instrument were reworded to inquire as to “how many times” a problem had been experienced, as opposed to whether it happened “very often.” DSM-IV criteria for alcohol abuse and dependence diagnoses for current alcohol problems (in the past year at 12 months and past 6 months at the 18 and 24 month assessments) were used to assign final diagnostic group status. For abuse criteria, recurrent alcohol problems were described as those occurring at least 3-5 times in the past year or 1-2 times in three or more problem areas (e.g., problems at work or home due to alcohol use).

Alcohol group status was determined on the basis of both the phone screen and measures used at the subsequent assessment. Parents who met diagnostic criteria at any time point were assigned to the FA group. Fathers were assigned alcoholic status if they: (a) met Family History Research Diagnostic Criteria (Andreasen, Rice, Endicott, Reich, & Coryell, 1986) for alcoholism according to maternal report; (b) acknowledged having a problem with alcohol or having been in treatment for alcoholism, was currently drinking, and had at least one alcohol-related problem in the past year; or (c) met DSM-IV criteria for alcohol abuse or dependence in the past year. Most fathers in the alcohol group met two or more of these criteria. Mothers were assigned alcoholic status if they met DSM-IV criteria or drank heavily (five or more drinks on a single occasion or more than seven drinks per week). The UM-CIDI is a widely used diagnostic interview designed to assess substance abuse and dependence with high inter-rater, test-retest reliability, and good validity with regard to concordance with clinical diagnoses (see Kessler, 1995). Following Aiken and West (1991), two dummy coded variables were created for model testing, one parent alcoholic only (coded 1) vs. rest (coded 0), and both alcoholic (coded 1) vs. rest (coded 0).

Marital Aggression: Two measures of verbal and physical aggression were used in this study. Mother and father reports of physical aggression were obtained from a modified version of the Conflict Tactics Scale (CTS; Straus, 1979). The items focusing on moderate (e.g., push, grab, or shove) to severe (e.g., hit with a fist) physical aggression, but not the very severe items (e.g., burnt or scalded, use of weapons) were used in this study. Parents’ were asked to report on the frequency of their own and their partners’ aggression toward each other on a 7-item scale. Following previous studies (Eiden et al., 2004), mother-to-father and father-to-mother physical aggression scores were computed at each time point by taking the maximum of the two scores (mother report vs. father report) reported for each

parent. For example, our ratings for father-to-mother aggression equal the higher score of father report of father vs. mother report of father. This was done to address the issue of under-reporting of aggressive acts, especially by men, when data are based on self-reports alone (see Archer, 2002).

Two composite scores were then created representing overall maternal and paternal aggression averaged across the 12, 18, and 24 month assessments. Verbal aggression was evaluated by a modified version of the Index of Spouse Abuse scale (ISA; Hudson & McIntosh, 1981), a 30 item valid and reliable measure for assessing the presence and extent of physical, sexual, and emotional abuse. Only the verbal aggression items were used from the original scale. Parents were asked to report on the frequency of their partners' verbal aggression toward them on the resulting 15-item measure along a 5-point scale ranging from "never" to "frequently". A composite verbal aggression measure was created by summing the items and averaging the total score across the three time points (12, 18, and 24 months). Confirmatory factor analysis was conducted on the four composite measures: fathers' physical aggression, mothers' physical aggression, fathers' verbal aggression, and mothers' verbal aggression. The composite scales were used as the measured indicators of the latent construct reflecting marital aggression. Confirmatory factor analysis indicated that the four scales loaded on one factor with higher scores reflecting higher marital aggression. Factor loadings ranged from .57 for fathers' verbal aggression to .86 for fathers' physical aggression.

Parenting Quality: Mothers and fathers were asked to interact with their children as they normally would at home for 10 minutes in a room filled with toys at 24 months of child age. Mother-child and father-child interactions were conducted separately about 4-6 weeks apart. These interactions were coded using a collection of global 5-point rating scales developed by Clark, Musick, Scott, and Klehr (1980), with higher scores indicating more positive behavior. These scales have been found to be applicable for children ranging in age from 2 months to 5 years (Clark, 1999; Clark et al., 1980). Composite measures of maternal and paternal sensitivity, negative affect, and warmth were derived from these scales, yielding three composite scales for mothers and three for fathers. Higher scores on these scales indicated high sensitivity, low negative affect, and high warmth.

Two coders rated mother-child interactions while two separate coders rated father-child interactions. All coders were trained on the Clark scales by the first author and were unaware of group membership and all other data. Inter-rater reliability was calculated for 17% of the sample ($n = 38$) and was high for all six sub-scales, ranging from Intra-class correlation coefficient of .81 to .92.

Confirmatory factor analyses were conducted on the six composite scales in order to examine the fit of two measurement models, one for each parent. The three composite scales for each parent were used as measured indicators of the latent construct reflecting parental warmth/sensitivity. Confirmatory factor analyses indicated that the three parenting behavior scales for fathers loaded on one factor reflecting fathers' warmth/sensitivity (with factor loadings ranging from .83 to .97). Similarly, the three parenting behavior scales for mothers loaded on one factor reflecting mothers' warmth/sensitivity (with factor loadings ranging from .80 to .90).

Peer competence: Teacher rating of peer competence was measured using the Peer competence and Behavior Evaluation Scales (SCBE-30; La Freniere & Dumas, 1996; La Freniere, Dumas, Capuano, & Dubeau, 1992). The scale measures three overall dimensions: peer competence, internalizing behavior problems, and externalizing behavior problems. Only the peer competence scale was used in these analyses. This scale is the average of eight

scales reflecting socially competent behaviors in the classroom: joyful, secure, tolerant, integrated, calm, prosocial, cooperative, and autonomous. Teachers were asked to rate the child in the study and four other classmates on a six-point response scale ranging from “never” to “always”. This scale has been validated for children ranging in age from 3-6 and has been used in a variety of settings and cultural contexts (Butovskaya & Demianovitsch, 2002; Kotler & McMahon, 2002; La Freniere et al., 2002). High scores on this scale indicate higher peer competence. The internal consistency of this scale was quite high, *Cronbach's alpha* = .93.

Maternal and paternal ratings of peer competence were computed by taking the average of four items: “How well does your child get along with classmates?”, “How easy is it for your child to make new friends?”, “Does your child have a special or close friend?”, and a reverse coded item from the Child Behavior Checklist (CBCL; Achenbach, 1992), “Not liked by other kids.” The first two items were rated on a scale of 1 to 5, with higher scores indicating higher peer competence, the third item was dichotomous, and the last item taken from the CBCL was rated on a 3 point scale that was reverse coded so that high scores were more optimal. Two composite measures reflecting maternal and paternal ratings of peer competence were obtained from these items with moderate internal consistency, *Cronbach's alpha* = .53 for maternal and .50 for paternal ratings.

Social Problem Solving: Children were read four hypothetical vignettes depicting peer provocation and four vignettes depicting peer group entry dilemmas in which the child was asked to imagine being rejected or ignored when attempting to join a group activity. Each vignette was presented with cartoon drawings illustrating the respective social dilemmas. Following each story, children were instructed to offer as many solutions to the dilemma they could identify (up to 10). Children's response repertoires were coded according to the proportion of solutions fitting eight social problem solving categories (see Harrist, Zaia, Bates, Dodge, & Pettit, 1997). The mean proportion of solutions classified by category in the present sample was as follows: (1) aggressive, (4%); (2) asking/telling (66%); (3) sharing/turn-taking (2%); (4) bribing/bargaining (4%); (5) passive/ineffective (4%); (6) authority intervention (10%); (7) irrelevant (2%); and (8) assertive (8%).

We a priori identified the assertive, sharing/turn-taking, and asking/telling categories as positive solutions and the aggressive and passive/ineffective categories as negative solutions. The remaining three categories were excluded from the data analysis, as these solutions cannot be clearly identified as involving competent or incompetent problem solving strategies. Two composite scores we created to indicate the proportion of responses across all eight vignettes pertaining to positive and negative solutions. Two independent coders, blind to all other child and parent information, achieved perfect inter-rater reliability for both the positive and negative solution categories.

Results

Missing Data and Data Analytic Approach

As would be expected of longitudinal studies involving multiple family members, there were incomplete data for some participants at one or more of the four assessment points included in this study. Of the 227 families included in analyses, all provided data at 12 and 18 months, 222 mothers and 218 fathers provided data at 24 months, and 185 mothers, 174 fathers, and 148 teachers provided data at the kindergarten assessment. Among the NA group families, 83% of families had maternal report data, 80% had paternal report data, and 67% had teacher report data. Among the FA group families, 80% had maternal report data, 73% had paternal report data, and 64% had teacher report data. There were no group differences between families with missing versus complete data on any of the alcohol

variables or parenting variables. There were also no differences between the two groups of families (complete versus missing data) on any of the child outcome variables.

Although it is clear that the data were not missing completely at random (MCAR) at kindergarten, data did meet criteria for missing at random (MAR). Little and Rubin (1989) defined data as MAR when cases with incomplete data differed from cases with complete data, but the pattern of missingness could be predicted from other variables in the database. They specifically cited longitudinal data where the potential cause for missingness (e.g., low self-esteem in a study about self-esteem) has been measured at earlier time points, as meeting criteria for MAR. Discussions of missing data have also noted that the assumption for MAR can never be definitively assessed. However, given that no differences were found between families with missing data and those with complete data on parenting or child outcome variables, the assumption of MAR seemed tenable for these data. In order to take advantage of all data provided by all participants, we used full information maximum likelihood (FIML) to estimate parameters in our models (Arbuckle, 1996b). This missing data approach includes all cases in the analysis, even those with missing data. When data are missing at random, FIML produces good estimates of population parameters. Even if the data are not missing at random, FIML is thought to produce more accurate estimates of population parameters than if listwise deletion was used.

Structural equation modeling (SEM) was used to test our conceptual models. All SEM analyses were conducted using AMOS (Arbuckle, 1996a). FIML estimation procedures were used and standardized parameter estimates are presented. The goodness-of-fit of the models was examined by using the comparative fit index (CFI) and the root mean square error of approximation (RMSEA). The CFI varies between zero and 1.0 and values of .90 or higher indicate acceptable fit (Hu & Bentler, 1995). The RMSEA is bounded by zero and will take on that value when a model exactly reproduces a set of observed data. A value of .05-.06 is indicative of close fit, a value of .08 is indicative of marginal fit, and higher values are indicative of poor fit (Browne & Cudeck, 1994).

Demographic and Descriptive Information

We first examined demographic and descriptive information regarding the families in the two groups. Approximately, 11% of families were not living together by the kindergarten assessment. Of these, 13% were in the FA group and 8% were in the NA group. Chi-square analyses indicated that this difference was not significant, $\chi^2(1) = 1.32, p > .05$. Only 2% of the children who completed assessments at kindergarten had no contact with their biological father. The remaining children had regular contact with their fathers (at least once a week) for at least 15 hours per week. Overall, 20 fathers (9%) had been in substance abuse treatment at some point since recruitment and the kindergarten assessment, and 18 (8%) had been in treatment for psychological problems. By kindergarten, 14 (6%) mothers had been in substance abuse treatment, and 27 (12%) had been in treatment for psychological problems.

Table 1 reports mean child peer competence, parenting, and marital conflict variables by alcohol group. A significant group difference was found for only one of the peer competence measures, father report of child competence, with children in the FA group achieving significantly lower mean ratings than children in the NA group. No significant differences in peer competence were found between the BA and NA groups. A multivariate analysis of variance (MANOVA) revealed no significant child gender differences across the three peer competence measures and two social problem solving measures ($F(5, 130) = 1.77, p = .12$). Thus, we did not include child gender as a covariate in model testing.

Correlational Analyses

Associations among mediators and outcome variables were examined using Pearson correlations (see Table 2). Results indicated that higher parental sensitivity, lower maternal negative affect, and higher maternal warmth during play interactions at 2 years were significantly associated with higher maternal reports of child peer competence in kindergarten. Higher mother to father verbal aggression was associated with lower maternal reports of peer competence. Lower maternal negative affect and higher maternal warmth at 2 years were associated with higher paternal reports of peer competence at kindergarten. Higher father to mother verbal aggression was associated with lower paternal reports of peer competence. The two social problem solving variables (positive and negative solutions) were associated in theoretically expected ways to teacher reports of peer competence. Lower paternal negative affect during play at 2 years was associated with higher teacher reports of peer competence. Positive and negative solutions to problem solving vignettes were negatively associated with each other and all of the parenting variables were significantly associated with each other. Higher father to mother and mother to father verbal and physical aggression were associated with lower quality paternal behavior during play. Only the mother to father verbal aggression was significantly associated with maternal behavior.

Testing the Conceptual Models

First, we tested a direct effects model that included covariances between marital aggression and the two dummy coded alcohol variables, direct paths from marital aggression to the three peer competence ratings, and covariances between the residuals for mother reported and father reported peer competence (see Figure 1). Results indicated that this model fit the data well, $\chi^2(81) = 138.65, p = .000, CFI = .93, RMSEA = .075$ and revealed significant paths linking marital aggression at 12-24 months to lower father and mother reports of peer competence at kindergarten. The path linking marital aggression to lower teacher reported peer competence also neared significance ($r = .16, p = .08$).

Next, we examined the social information processing model. This model included covariances among the two dummy coded alcohol variables and marital aggression. The model also included causal paths from the latent variables for marital aggression to the two social problem solving variables, and paths from the two social problem solving variables to the three peer competence variables. The covariances between the residuals for maternal and paternal reports of child peer competence were also included in the model. Although model fit indices indicated that this model fit the data adequately, $\chi^2(39) = 107.85, p = .000, CFI = .85, RMSEA = .09$, the structural path leading from positive social problem solving solutions to teacher reports of peer competence was the only path to achieve significance (see Figure 2). The covariance between the residuals of parent reports of peer competence was also significant.

Finally, we examined the spillover model. This model included covariances from the two dummy coded alcohol variables to the latent variable for marital aggression, causal paths from the alcohol variables and the latent variable for marital aggression to the two latent variables for maternal and paternal warmth/sensitivity, and from the two latent variables for parental warmth/sensitivity to the three peer competence variables. The model also included the covariances between the two dummy coded alcohol variables, the disturbances for the two latent variables for parental warmth/sensitivity, and the residuals for father and mother reports of peer competence. Results indicated that the spillover model fit the data well, $\chi^2(80) = 152.97, p = .000, CFI = .95, RMSEA = .06$. This model indicated that the within time covariance between the residuals of the latent constructs for maternal and paternal warmth was significant and positive, indicating that higher maternal warmth was moderately associated with higher paternal warmth at 2 years of child age. The two dummy coded

alcohol variables were negatively correlated with each other and both were positively correlated with marital aggression, indicating that alcoholic families had higher levels of marital aggression. The structural paths indicated that after controlling for parents' alcohol diagnoses, higher marital aggression was associated with lower parental warmth/sensitivity. Higher maternal warmth/sensitivity at 2 years was uniquely predictive of higher maternal and paternal reports of peer competence in kindergarten while higher paternal warmth/sensitivity was uniquely predictive of higher teacher reports of peer competence.

Indirect effects were tested using the biased-corrected bootstrap method. This method has been found to provide a more accurate balance between Type 1 and Type 2 errors compared to other methods used to test indirect effects (MacKinnon Lockwood, & Williams, 2004). Five hundred bootstrap samples and the 95% bias-corrected confidence intervals (CIs) were utilized. Both the indirect effects of marital aggression on maternal reports ($B = -0.04$; 95% CI = $-.17, -.01$) and paternal reports of social competence ($B = -0.03$; 95% CI = $-.15, -.005$) via maternal warmth/sensitivity were statistically significant.

We then added direct causal paths from marital aggression to the three social competence variables in order to determine whether the direct effects of marital aggression remained significant in the spillover model (see figure 3). The inclusion of these direct paths resulted in a significant improvement in fit, $\Delta \chi^2(3) = 8.545, p < .05$. This model fit the data well, $\chi^2(77) = 144.42, p = .000, CFI = .95, RMSEA = .06$. The direct path leading from marital aggression to father reported social competence was significant, while the indirect path leading from maternal parenting to father reported peer competence no longer significant ($p > .05$), indicating that parenting partially mediates the direct effects of marital aggression on peer competence.

Discussion

The goal of our study was to compare three models concerning the relation between marital aggression at 12-24 months of child age and child peer competence at kindergarten. As anticipated, marital aggression was consistently higher among families with one or more alcoholic parent, thus permitting us to examine the effects of a broad range of aggressive behavior. The sum of the findings provide relatively equal support for the spillover and the direct effects models with less support for the social information processing model, indicating that parenting partially mediates the effects of marital aggression on social competence. Results from the direct effects model revealed significant direct effects of marital aggression on father and mother reported peer competence and a non-significant trend linking marital aggression to teacher reports of peer competence. The finding suggests that parents may attune to different features of child social functioning than teachers. Previous research has demonstrated that parent and teacher reports of peer competence are only modestly related (Junttila, Voeten, Kaukiainen, & Vauras, 2006). These differences are unsurprising considering that parents and teachers observe child social functioning within very different contexts. Within the current study, fathers' ratings of peer competence were not associated and mothers' ratings were only modestly related to teacher reports ($r = .18$). This difference may have been exacerbated by the fact that parent and teacher reports were evaluated with separate instruments. Additionally, given that children have been found to display affective distress shortly after witnessing parental conflict (Cummings, Iannotti, & Zahn-Waxler 1985; Cummings, Pellegrini, Notarius, & Cummings 1989), it remains possible that parents in high conflict marriages have more opportunities to observe their children display negative affect in a variety of circumstances, including peer interaction. Aggressive parents may also share a disposition to develop critical attitudes toward other significant people in their lives, including their children, and thus would be more inclined to report unfavorable child characteristics.

Although our direct effects model provides evidence that marital aggression is longitudinally predictive of child peer competence our social information processing model does not support the theory that this relation is mediated by children's social problem solving abilities. Marital aggression was not predictive of either positive or negative social problem solving. Social problem solving was significantly related to teacher reported but not to mother or father reported social competence while negative social problem solving was unrelated to all three of our social competence measures. Several explanations can be offered to account for these non-significant paths. To begin with, kindergarten age children may have yet to consolidate the social-cognitive structures that motivate behavior among older children and adults. As noted above, Guerra et al. (2003) proposed that child behavioral tendencies precede the development of social cognitions that, in turn, come to influence social behavior during middle childhood when these cognitive abilities mature. Additionally, the hypothetical nature of the problem solving dilemmas may provide children an artificial opportunity to distance themselves from the more instinctive and affectively generated response tendencies that guide behavior during actual social encounters. In particular, children may be less likely to experience anger in response to hypothetical dilemmas and consequently less likely to endorse aggressive solutions. This limitation may account for the fact that only 9% of child responses endorsed negative problem solving solutions.

The spillover model posited that marital aggression limits peer competence through its detrimental effects on parenting behavior. Marital aggression was a significant predictor of both mother and father parenting. Father parenting, in turn, was linked to teacher reports of peer competence while maternal parenting predicted mother and father reported child competence. As a further comparison of our direct effects and spillover models, we added direct paths from marital aggression to social competence to our spillover model. This addition resulted in a significant improvement in fit, indicating that parenting behavior only partially mediated the relation between these two variables and supporting a moderate versus strong version of the spillover hypothesis with regard to peer competence.

As with two of the previous studies to examine the spillover effects on peer competence (Lindsay, et al. 2002; Stocker & Youngblade, 1999) findings suggest that the mediating role of parenting behavior varies in relation to parent gender. In particular, our findings imply that mothers' and fathers' parenting influence different characteristics of their children's social functioning. In particular, mothers' parenting style would appear to have greater consequences for those social behaviors parents' are likely to observe, while fathers' parenting appears more likely to effect social behavior within the school environment. The former finding may reflect the fact that mothers are typically more involved in the parenting of young children and are therefore able to play a more active role in shaping social behaviors displayed in those contexts in which parents are likely to be present. This finding may also relate to differing styles of parent-child communication. Rogoff (1990) speculates that children of parents with traditional childrearing arrangements are likely to develop a greater shared understanding with their mothers, and are thus stimulated to work harder at explaining themselves to and understanding their less familiar fathers. Such transactions, in turn, may enhance their communicative competence with even less familiar and potentially less accommodating peers when adjusting to the school environment.

Evidence also suggests that mothers have greater influence on children's internalizing behavior while fathers' influence is greater for externalizing behavior (Cowan, Cowan, Schulz, & Heming, 1994). Since teachers have been shown to be more reliable observers of externalizing behavior, they would also likely be better observers of the varieties of disruptive social incompetence associated with disturbances in the father-child relationship. Similarly, McDowell, Parke, and Spitzer (2002) suggest that mothers are particularly

influential in the domain of prosocial functioning, such as making friends, while fathers are more instrumental in shaping children's ability to resolve peer conflicts. Research indicates that social problems among lonely children who have difficulty making friends are less likely to come to teachers' attention than are the difficulties encountered by children who engage in frequent peer conflict (Boivin & Hymel, 1997; Stormshak & Webster-Stratton, 1999).

Several limitations of the current study should also be noted. First, although the longitudinal nature of the sample indicates that sensitive and positive affective parent-child exchanges during the toddler years set the stage for healthy socio-emotional adaptation in kindergarten, it remains possible that this association is mediated by subsequent parenting behavior. As children reach kindergarten age, parents begin to play a more active role as advisors, managers, and rule providers for peer interactions which may, in and of itself, account for their children's peer competence. Future longitudinal studies tracking the quality and changing characteristics of parent-child interaction across multiple time points in conjunction with children's evolving cognitive and emotional capacities will help to elucidate precise mechanisms linking parenting to child peer competence. A second limitation is that we did not consider the contribution of child temperament in these already complex models. Temperament research (Putnam, Sanson, & Rothbart, 2002) reveals that child characteristics are capable of eliciting varying styles of response from both parents and peers. It remains possible, then, that associations between parenting and peer competence reflect children's underlying disposition to elicit more or less agreeable responses from a variety of social partners, including both parents and peers. Third, the internal consistencies for parental ratings of social competence were relatively low which may have limited the correlations between these measures and other measures included in our models. Fourth, slightly over half of the children who completed our social problem solving assessment failed to endorse a solution pertaining to our negative social problem solving variable, indicating that the measure may not have been sufficiently sensitive to capture the range of problematic social problem solving tendencies within our sample.

Strengths of this investigation include the longitudinal design, use of multiple indicators for peer competence, evaluation of family and developmental processes, and inclusion of both parents. Findings add to a growing body of evidence indicating that the development of children's social functioning is embedded within a broader nexus of interpersonal relationships within the family, including the inter-parental relationship and the parent-child relationship. Results also contribute to an underrepresented body of literature regarding fathers' unique influence on child outcomes and also suggest that interventions targeting marital conflict and parenting during the toddler years may prove beneficial for children's later socialization, perhaps particularly for children of alcoholics who are disproportionately likely to experience elevated marital aggression and parenting problems. Research implementing behavioral couples therapy (BCT) with substance abusing individuals reveals that this treatment has been effective in reducing substance abuse and marital violence and improving family and child functioning, even when children are not included in the treatment (see Fals-Stewart, O' Farrell, Birchler, Cordova & Kelley 2005). Lam, Fals-Stewart & Kelley (2008) recently reported on a pilot study in which parent skills training was found to reduce child internalizing and externalizing symptoms when added to BCT. Improving parental functioning either directly or through decreased alcohol use and improved marital quality may also have important consequences for child social functioning.

References

- Achenbach, TM. Manual for the child behavior checklist/2-3 and 1992 profile. University of Vermont Department of Psychiatry; Burlington, VT: 1992. Unpublished Work

- Aiken, LS.; West, SG. Multiple Regression: Testing and interpreting interactions. Sage; Newbury Park, CA: 1991.
- Ainsworth MS. Infant-mother attachment. *American Psychologist*. 1979; 34:932–937. [PubMed: 517843]
- Andreasen NC, Rice J, Endicott J, Reich T, Coryell W. The family history approach to diagnosis: How useful is it? *Archives of General Psychiatry*. 1986; 43:421–429. [PubMed: 3964020]
- Anthony JC, Warner LA, Kessler RC. Comparative epidemiology of dependence on tobacco, alcohol, controlled substances, and inhalants: Basic findings from the National Comorbidity Survey. *Experimental & Clinical Psychopharmacology*. 1994; 2:244–268.
- Arbuckle, JL. Amos 7.0 [Computer software]. Amos Development Corporation; Spring House, PA: 1996a.
- Arbuckle, JL. Full information estimation in the presence of incomplete data. In: Marcoulides, GA.; Schumacker, RE., editors. *Advanced structural equation modeling: Issues and techniques*. Lawrence Erlbaum Associates; Mahwah, NJ: 1996b. p. 243-277.
- Bagwell CL, Newcomb AF, Bukowski WM. Preadolescent friendship and peer rejection as predictors of adult adjustment. *Child Development*. 1998; 69:140–153. [PubMed: 9499563]
- Bandura A, Ross D, Ross SA. Transmission of aggression through imitation of aggressive models. *Journal of Abnormal & Social Psychology*. 1961; 63:575–582. [PubMed: 13864605]
- Block JH, Block J, Morrison A. Parental agreement-disagreement on child-rearing orientations and gender-related personality correlates in children. *Child Development*. 1981; 52:965–974.
- Boivin M, Hymel S. Peer experiences and social self-perceptions: A sequential model. *Developmental Psychology*. 1997; 33:135–145. [PubMed: 9050398]
- Bonds DD, Gondoli DM. Examining the process by which marital adjustment affects maternal warmth: The role of co-parenting support as a mediator. *Journal of Family Psychology*. 2007; 21:288–296. [PubMed: 17605551]
- Boyum LA, Parke RD. The role of family emotional expressiveness in the development of children's peer competence. *Journal of Marriage & the Family*. 1995; 57:593–608.
- Bradford K, Barber BK. Interparental conflict as intrusive family process. *Journal of Emotional Abuse*. 2005; 5:143–167.
- Browne, MW.; Cudeck, R. Alternative ways of assessing model fit. In: Bollen, KA.; Long, JS., editors. *Testing structural equation models*. Sage; Newbury Park, CA: 1994. p. 136-162.
- Bryant BK. Conflict resolution strategies in relation to children's peer relations. *Journal of Applied Developmental Psychology*. 1992; 13:35–50.
- Buehler C, Gerard JM. Marital conflict, ineffective parenting, and children's and adolescents' maladjustment. *Journal of Marriage & Family*. 2002; 64:78–92.
- Burgess KB, Wojslawowicz JC, Rubin KH, Rose-Krasnor L, Booth-LaForce C. Social information processing and coping strategies of shy/withdrawn and aggressive children: Does friendship matter? *Child Development*. 2006; 77:371–383. [PubMed: 16611178]
- Butovskaya ML, Demianovitsch AN. Peer competence and behavior evaluation (SCBE-30) and socialization values (SVQ): Russian children ages 3 to 6 years. *Early Education & Development*. 2002; 13:153–170.
- Carson JL, Parke RD. Reciprocal negative affect in parent-child interactions and children's peer competence. *Child Development*. 1996; 67:2217–2226. [PubMed: 9022239]
- Chung T-Y, Asher SR. Children's goals and strategies in peer conflict situations. *Merrill-Palmer Quarterly*. 1996; 42(1):125–147.
- Clark R. The parent-child early relational assessment: A factorial validity study. *Educational & Psychological Measurement*. 1999; 59:821–846.
- Clark R, Musick J, Scott F, Klehr K. The mothers' project rating scale of mother-child interaction. 1980 Unpublished Work.
- Cowan, PA.; Cowan, AP.; Schulz, MS.; Heming, G. Prebirth to preschool family factors in children's adaptation to kindergarten. In: Parke, RD.; Kellam, SG., editors. *Exploring family relationships with other social contexts*. Lawrence Erlbaum Associates; Hillsdale, NJ: 1994. p. 75-114.

- Crick NR, Dodge KA. A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin*. 1994; 115:74–101.
- Cummings EM, Iannotti RJ, Zahn-Waxler C. Influence of conflict between adults on the emotions and aggression of young children. *Developmental Psychology*. 1985; 21:495–507.
- Cummings EM, Zahn-Waxler C, Radke-Yarrow M. Young children's responses to expressions of anger and affection by others in the family. *Child Development*. 1981; 52:1274–1282.
- Cummings JS, Pellegrini DS, Notarius CI, Cummings EM. Children's responses to angry adult behavior as a function of marital distress and history of interparent hostility. *Child Development*. 1989; 60:1035–1043. [PubMed: 2805881]
- Davies PT, Cummings EM. Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin*. 1994; 116:387–411. [PubMed: 7809306]
- Dodge KA, Price JM. On the relation between social information processing and socially competent behavior in early school-aged children. *Child Development*. 1994; 65:1385–1397. [PubMed: 7982356]
- Dodge KA, Price JM, Bachorowski J-A, Newman JP. Hostile attributional biases in severely aggressive adolescents. *Journal of Abnormal Psychology*. 1990; 99:385–392. [PubMed: 2266213]
- Duman S, Margolin G. Parents' aggressive influences and children's aggressive problem solutions with peers. *Journal of Clinical Child & Adolescent Psychology*. 2007; 36:42–55. [PubMed: 17206880]
- Erel O, Burman B. Interrelatedness of marital relations and parent-child relations: A meta-analytic review. *Psychological Bulletin*. 1995; 118:108–132. [PubMed: 7644602]
- Erel O, Margolin G, John RS. Observed sibling interaction: Links with the marital and the mother-child relationship. *Developmental Psychology*. 1998; 34:288–298. [PubMed: 9541781]
- Erwin PG. Social problem solving, social behavior, and children's peer popularity. *The Journal of Psychology*. 1994; 128:299–306. [PubMed: 8046664]
- Fals-Stewart W, O'Farrell TJ, Birchler GR, Cordova J, Kelley ML. Behavioral couples therapy for alcoholism and drug abuse: Where we've been, where we are, and where we're going. *Journal of Cognitive Psychotherapy*. 2005; 19:229–246.
- Fauber R, Forehand R, Thomas AM, Wierson M. A mediational model of the impact of marital conflict on adolescent adjustment in intact and divorced families: The role of disrupted parenting. *Child Development*. 1990; 61:1112–1123. [PubMed: 2209181]
- Fauber RL, Long N. Children in context: The role of the family in child psychotherapy. *Journal of Consulting & Clinical Psychology*. 1991; 59:813–820. [PubMed: 1774366]
- Fauchier A, Margolin G. Affection and conflict in marital and parent-child relationships. *Journal of Marital & Family Therapy*. 2004; 30:197–211. [PubMed: 15114948]
- Garner PW, Robertson S, Smith G. Preschool children's emotional expressions with peers: The roles of gender and emotion socialization. *Sex Roles*. 1997; 36:675–691.
- Goodman SH, Barfoot B, Frye AA, Belli AM. Dimensions of marital conflict and children's social problem-solving skills. *Journal of Family Psychology*. 1999; 13:33–45.
- Gottman JM, Katz LF. Effects of marital discord on young children's peer interaction and health. *Developmental Psychology*. 1989; 25:373–381.
- Gottman, JM.; Levenson, RW. The social psychophysiology of marriage. In: Noller, P.; Fitzpatrick, MA., editors. *Perspectives on marital interaction*. Multilingual Matters; Clevedon, England: 1988. p. 182-200.
- Graham-Bermann SA, Levendosky AA. The social functioning of preschool-age children whose mothers are emotionally and physically abused. *Journal of Emotional Abuse*. 1997; 1:59–84.
- Grossmann K, Grossmann KE, Fremmer-Bombik E, Kindler H, Scheuerer-Engelisch H, Zimmermann P. The uniqueness of the child-father attachment relationship: Fathers' sensitive and challenging play as a pivotal variable in a 16-year longitudinal study. *Social Development*. 2002; 11:307–331.
- Grych JH, Fincham FD. Marital conflict and children's adjustment: A cognitive-contextual framework. *Psychological Bulletin*. 1990; 108:267–290. [PubMed: 2236384]

- Guerra NG, Huesmann R, Spindler A. Community violence exposure, social cognition, and aggression among urban elementary school children. *Child Development*. 2003; 74:1561–1576. [PubMed: 14552414]
- Harrist AW, Zaia AF, Bates JE, Dodge KA, Pettit GS. Subtypes of social withdrawal in early childhood: Sociometric status and social-cognitive differences across four years. *Child Development*. 1997; 68:278–294. [PubMed: 9180002]
- Hicks DJ. Imitation and retention of film-mediated aggressive peer and adult models. *Journal of Personality & Social Psychology*. 1965; 2:97–100. [PubMed: 14313849]
- Hipwell AE, Murray L, Ducournau P, Stein A. The effects of maternal depression and parental conflict on children's peer play. *Child: Care, Health & Development*. 2005; 31:11–23.
- Howes P, Markman HJ. Marital quality and child functioning: A longitudinal investigation. *Child Development*. 1989; 60:1044–1051. [PubMed: 2805882]
- Hu, LT.; Bentler, PM. Evaluating model fit. In: Hoyle, RH., editor. *Structural equation modeling: Concepts, issues, and applications*. Sage; Thousand Oaks, CA: 1995. p. 76-99.
- Hudson WW, McIntosh SR. The assessment of spouse abuse: Two quantifiable dimensions. *Journal of Marriage & the Family*. 1981; 43:885.
- Junttila N, Voeten M, Kaukiainen A, Vauras M. Multisource assessment of children's peer competence. *Educational & Psychological Measurement*. 2006; 66:874–895.
- Kessler RC. The national comorbidity survey: Preliminary results and future directions. *International Journal of Methods in Psychiatric Research*. 1995; 5:139–151.
- Kessler RC, McGonagle KA, Zhao S, Nelson CB, Hughes M, Eshleman S, et al. Lifetime and 12 month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry*. 1994; 51:8–19. [PubMed: 8279933]
- Kitzman KM. Effects of marital conflict on subsequent triadic family interactions and parenting. *Developmental Psychology*. 2000; 36:3–13. [PubMed: 10645740]
- Kotler JC, McMahon RJ. Differentiating anxious, aggressive and socially competent preschool children: Validation of the Peer competence and Behavior Evaluation-30 (parent version). *Behaviour Research and Therapy*. 2002; 40:947–959. [PubMed: 12186357]
- Krishnakumar A, Buehler C. Interparental conflict and parenting behaviors: A meta-analytic review. *Family Relations*. 2000; 49:25–44.
- Ladd GW, Troop-Gordon W. The role of chronic peer difficulties in the development of children's psychological adjustment problems. *Child Development*. 2003; 74:1344–1367. [PubMed: 14552402]
- La Freniere P, Dumas JE. Peer competence and behavior evaluation in children ages 3 to 6 years: The short form (SCBE-30). *Psychological Assessment*. 1996; 8:369–377.
- La Freniere P, Dumas JE, Capuano F, Dubeau D. Development and validation of the preschool socioaffective profile. *Psychological Assessment*. 1992; 4:442–450.
- La Freniere P, Masataka N, Butovskaya ML, Chen Q, Dessen MA, Atwanger K, et al. Cross-cultural analysis of peer competence and behavior problems in preschoolers. *Early Education & Development*. 2002; 13:201–219.
- Lam WK, Fals-Stewart W, Kelley ML. Effects of Parent Skills Training with Behavioral Couples Therapy for alcoholism on children: A randomized clinical pilot trial. *Addictive Behaviors*. 2008; 33:1076–1080. [PubMed: 18485612]
- Lamb, ME. The development of father-infant relationships. In: Lamb, ME., editor. *The role of the father in child development*. 3rd. John Wiley & Sons Inc; Hoboken, NJ: 1997. p. 104-120.
- Leonard KE, Roberts LJ. The effects of alcohol on the marital interactions of aggressive and nonaggressive husbands and their wives. *Journal of Abnormal Psychology*. 1998; 107:602–615. [PubMed: 9830248]
- Lindahl KM, Malik NM. Marital conflict, family processes, and boys' externalizing behavior in Hispanic American and European American families. *Journal of Clinical Child Psychology*. 1999; 28:12–24. [PubMed: 10070604]

- Lindsey EW, MacKinnon-Lewis C, Campbell J, Frabutt JM, Lamb ME. Marital conflict and boys' peer relationships: The mediating role of mother-son emotional reciprocity. *Journal of Family Psychology*. 2002; 16:466–477. [PubMed: 12561292]
- Lindsey EW, Mize J. Interparental agreement, parent-child responsiveness, and children's peer competence. *Family Relations*. 2001; 50:348–354.
- Little R, Rubin D. The analysis of social science data with missing values. *Sociological Methods & Research*. 1989; 18:292–326.
- MacDonald K, Parke RD. Bridging the gap: Parent-child play interaction and peer interactive competence. *Child Development*. 1984; 55:1265–1277. [PubMed: 6488955]
- MacKinnon DP, Lockwood CM, Williams J. Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavior Research*. 2004; 39:99–128.
- Mann BJ, MacKenzie EP. Pathways among marital functioning, parental behaviors, and child behavior problems in school-age boys. *Journal of Clinical Child Psychology*. 1996; 25:183–191.
- Marcus NE, Lindahl KM, Malik NM. Interparental conflict, children's social cognitions, and child aggression: A test of a mediational model. *Journal of Family Psychology*. 2001; 15:315–333. [PubMed: 11458636]
- Margolin, G. Interpersonal and intrapersonal factors associated with marital violence. In: Hotaling, GT.; Finkelhor, D.; Kirkpatrick, JT.; Straus, MA., editors. *Family abuse and its consequences: New directions in research*. Sage Publications, Inc.; Thousand Oaks, CA: 1988. p. 203–217.
- McCloskey LA, Stuewig J. The quality of peer relationships among children exposed to family violence. *Development & Psychopathology*. 2001; 13:83–96. [PubMed: 11346054]
- McDowell DJ, Parke RD, Spitzer S. Parent and child cognitive representations of social situations and children's peer competence. *Social Development*. 2002; 11:469–486.
- McDowell DJ, Parke RD, Wang SJ. Differences between mothers' and fathers' advice-giving style and content: Relations with peer competence and psychological functioning in middle childhood. *Merrill-Palmer Quarterly*. 2003; 49:55–76.
- O'Farrell TM, Murphy CM, Neavins TM, Van Hutton V. Verbal aggression among male alcoholic patients and their wives in the year before and two years after alcoholism treatment. *Journal of Family Violence*. 2000; 15:295–310.
- Paquette D. Theorizing the father-child relationship: Mechanisms and developmental outcomes. *Human Development*. 2004; 47:193–219.
- Parker JG, Asher SR. Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin*. 1987; 102:357–389. [PubMed: 3317467]
- Peterson JL, Zill N. Marital disruption, parent-child relationships, and behavior problems in children. *Journal of Marriage & the Family*. 1986; 48:295–307.
- Pettit GS, Brown EG, Mize J, Lindsey E. Mothers' and fathers' socializing behaviors in three contexts: Links with children's peer competence. *Merrill-Palmer Quarterly*. 1998; 44:173–193.
- Putnam, SP.; Sanson, AV.; Rothbart, MK. Child temperament and parenting. In: Bornstein, MH., editor. *Handbook of parenting: Children and parenting*. 2nd ed. Vol. Vol 1. Lawrence Erlbaum Associates; Mahwah, NJ: 2002. p. 255–277.
- Renshaw PD, Asher SR. Children's goals and strategies for social interaction. *Merrill-Palmer Quarterly*. 1983; 29(3):353–374.
- Rogoff, B. *Apprenticeship in thinking: Cognitive development in social context*. Oxford University Press; New York: 1990.
- Rosenberg MS. Children of battered women: The effects of witnessing violence on their social problem-solving abilities. *Behavior Therapist*. 1987; 10(4):85–89.
- Rubin KH, Daniels-Beirness T. Concurrent and predictive correlates of sociometric status in kindergarten and grade 1 children. *Merrill-Palmer Quarterly*. 1983; 29(3):337–351.
- Rubin KH, Daniels-Beirness T, Bream L. Social isolation and social problem solving: A longitudinal study. *Journal of Consulting & Clinical Psychology*. 1984; 52:17–25.
- Schneider BH, Atkinson L, Tardif C. Child-parent attachment and children's peer relations: A quantitative review. *Developmental Psychology*. 2001; 37:86–100. [PubMed: 11206436]

- Slaby RG, Guerra NG. Cognitive mediators of aggression in adolescent offenders: 1. Assessment. *Developmental Psychology*. 1988; 24:580–588.
- Stocker CM, Youngblade L. Marital conflict and parental hostility: Links with children's sibling and peer relationships. *Journal of Family Psychology*. 1999; 13:598–609.
- Stormshak EA, Webster-Stratton C. The qualitative interactions of children with conduct problems and their peers: Differential correlates with self-report measures, home behavior, and school behavior problems. *Journal of Applied Developmental Psychology*. 1999; 20:295–317.
- Straus MA. Measuring intra family conflict and violence: The Conflict Tactics (CT) Scales. *Journal of Marriage & the Family*. 1979; 41:75–88.

Figure 1.

Direct effects model: structural equation modeling.

The numbers represent standard path coefficients. Dotted lines indicate non-significant paths. The error terms for the measured indicators are not depicted in the figure. FA = Father Alcoholic, BA = Both Mother and Father Alcoholic, K = Kindergarten assessment. * $p < .05$; ** $p < .01$.

Figure 2.

Social information processing model: structural equation modeling.

The numbers represent standard path coefficients. Dotted lines indicate non-significant paths. The error terms for the measured indicators are not depicted in the figure. FA = Father Alcoholic, BA = Both Mother and Father Alcoholic, K = Kindergarten assessment. * $p < .05$;

** $p < .01$.

Figure 3.

Spillover Model: structural equation modeling.

Note. The numbers represent standard path coefficients. Dotted lines indicate non-significant paths. The error terms for the measured indicators are not depicted in the figure.

FA = Father Alcoholic, BA = Both Mother and Father Alcoholic, K = Kindergarten assessment. * $p < .05$; ** $p < .01$.

Table 1

Child Peer Competence by Group Status

	Total			Father Alcoholic			NA Group			F	Eta ²
	N	M	SD	N	M	SD	N	M	SD		
Mother Report Social Competence	188	3.03	.5	107	2.99	.53	81	3.07	.46	1.21	.01
Father Report Social Competence	178	3.05	.49	99	2.95	.53	79	3.17	.43	8.53*	.05
Teacher Report Social Competence	148	16.13	4.4	84	15.65	4.23	64	16.76	4.56	2.35	.02
Positive problem solving	172	.76	.23	97	.75	.23	75	.77	.22	.52	.00
Negative problem solving	172	.09	.14	97	.09	.15	75	.08	.13	.38	.00
Father negative affect	214	4.65	.53	120	4.54	.54	94	4.79	.48	12.2**	.05
Father positive affect	214	4.09	.86	120	3.8	.88	94	4.47	.67	36.51***	.15
Father sensitivity	213	4.45	.68	120	4.26	.68	93	4.7	.59	24.53***	.10
Mother negative affect	219	4.74	.43	126	4.67	.47	93	4.82	.36	7.35**	.03
Mother positive affect	219	4.26	.73	126	4.06	.76	93	4.54	.58	25.26***	.10
Mother sensitivity	218	4.59	.53	125	4.49	.57	93	4.72	.45	10.48**	.05
Father to Mother Verbal aggression	227	.67	.6	130	.77	.61	97	.53	.56	9.2**	.04
Mother to Father verbal aggression	227	.5	.54	130	.62	.61	97	.34	.39	15.37***	.06
Father to Mother physical aggression	227	1.41	2.89	130	1.83	3.35	97	.84	2.03	6.57*	.03
Mother to Father Physical aggression	227	2.94	5.34	130	3.76	6.19	97	1.85	3.69	7.28**	.03

Note. Three-group ANOVAs including the BA as a separate group revealed no significant differences between BA and FA families on any of these variables. $p < .05$

Means with different superscripts were significantly different from each other. NA = Not Alcoholic.

**
p < .01

p < .001

Table 2
Correlations Between Peer Competence, Marital Aggression, and Parenting Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Mother reported peer competence														
2. Father reported peer competence	.65***													
3. Teacher reported peer competence	.18*	.09												
4. Positive solution to social problem	-.08	-.02	.21*											
5. Negative solution to social problem	.06	.08	-.17*	-.43***										
6. Father negative affect	.14	.02	.24**	.14	-.07									
7. Father positive affect	.13	.08	.14	.13	-.09	.74***								
8. Father sensitivity	.16*	.05	.20*	.15	-.12	.81***	.85***							
9. Mother negative affect	.26***	.15*	.09	.05	.01	.37***	.37***	.42***						
10. Mother positive affect	.29***	.23**	.03	.07	.11	.31***	.44***	.41***	.70					
11. Mother sensitivity	.20**	.13	.06	-.02	.06	.36***	.39***	.47***	.80***	.72***				
12. Father to mother verbal aggression	-.11	-.20**	-.10	.05	-.07	-.13	-.16*	-.10	-.03	-.07	-.06			
13. Mother to father verbal aggression	-.21**	-.18*	-.12	-.00	-.05	-.16*	-.21**	-.18**	-.14*	-.18**	-.14*	.45***		
14. Father to mother physical aggression	-.10	-.19*	-.14	-.04	-.02	-.16*	-.15*	-.14*	-.09	-.10	-.11	.44***	.53***	
15. Mother to father physical aggression	-.11	-.13	-.04	.02	-.03	-.15*	-.16*	-.12	-.10	-.06	-.10	.45***	.37***	.67***

Note.

* p < .05

** p < .01

*** p < .001