Stony Brook University

The Influences of Interparental Conflict and Parenting on Children's Social Competence

A Dissertation Presented

by

Nadia Samad

to

The Graduate School

in Partial Fulfillment of the

Requirements

for the Degree of

Doctor of Philosophy

in

Clinical Psychology

Stony Brook University

August 2014

Stony Brook University

The Graduate School

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Abstract of the Dissertation

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2014

Young children's social competence has profound effects on developmental outcomes. It has

been well-established that children's home environments (i.e., parenting, interparental conflict)

are related to children's later social competence. A structural model was proposed that posited

children's social information processing as a mechanism through which interparental conflict

and parenting predict children's social competence. To test the proposed model, 397 families

with at least one child between the ages of four and eight participated in the present study. The

proposed model was analyzed and modified in Amos 20.0. The final structural model outlines

pathways whereby parenting significantly predicts children's social competence directly and

indirectly, through children's social information processing. Further, interparental conflict

significantly indirectly predicts children's social competence, through parenting and children's

social information processing. These pathways highlight the possible utility of two types of

interventions to improve children's social competence in high conflict homes: (a) parenting

interventions aimed at increasing positive parenting behaviors and (b) interventions with children

designed to correct their hostile attribution biases.

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The Influences of Interparental Conflict and Parenting on Children's Social Competence

Young children's social competence has profound effects on developmental outcomes (Diener & Kim, 2004). Social competence enables children to perform well in different environments; thus, poor social competence can lead to social anxiety, antisocial behavior, academic difficulties, and peer rejection (Buhs & Ladd, 2001; Kim, Han, & McCubbin, 2007; Parker & Asher, 1987). Enhanced social competence, however, is related to academic success, a broader social network, and lower levels of loneliness, aggression, and depression (Kim et al., 2007; Parker & Asher, 1993; Pettit, Clawson, Dodge, & Bates, 1996). Social competence encompasses peer acceptance/rejection, relational aggression, and overt hostility, all of which have been shown to be important predictors of children's current level of functioning as well as later adjustment (Buhs & Ladd, 2001; Eisenberg et al., 1999; Ladd & Price, 1987; Ostrov et al., 2009; Parker & Asher, 1987). A substantial body of research has shown that childhood peer rejection is related to poor academic performance, aggression, inferior social skills, loneliness, low levels of classroom participation, and a desire to avoid school (Buhs & Ladd, 2001; Parker & Asher, 1993; Pettit et al., 1996), as well as school dropout and criminality later in life (Parker & Asher, 1987). Likewise, children's levels of aggression are associated with delinquency, peer rejection, loneliness, psychopathology, problematic school transitions, and academic difficulties (Ostrov et al., 2009).

The far-reaching impact of children's level of social competence on other areas of their functioning points to the importance of understanding possible developmental influences on children's social competence. It has been well-established that home environments (e.g., parenting, interparental conflict) are related to children's later social competence (O'Connor, Jenkins, Hewitt, DeFries, & Plomin, 2001; Parke et al., 2001); however, the mechanism through

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which this occurs is still unclear. The present study seeks to examine children's social information processing as one such mechanism through which children's home environments influence their social competence (see Figure 1). To establish the rationale for the proposed model, the literature review will first outline the relation between interparental conflict and children's social competence, followed by the relation between parenting and children's social competence and evidence for parenting as a mediator in the relation between interparental conflict and children's social competence. Next, the literature review will describe the relation between children's social information processing and social competence, followed by evidence for children's social information processing as a mediator in the relation between children's home environments (i.e., interparental conflict, parenting) and children's social competence. Lastly, the hypothesized structural model will be presented.

Interparental Conflict and Children's Social Competence

Higher levels of interparental conflict have been shown to be related to lower levels of children's social competence, as exemplified by prosocial behavior and social problem-solving skills (Goodman, Barfoot, Frye, & Belli, 1999; McCoy, Cummings, & Davies, 2009). Moreover, the negativity of interparental conflict resolution styles before children are born predicts the quality of children's peer relations at age five (Lindahl, Clements, & Markman, 1998). Children's perceptions of interparental conflict in grades five and six have also been shown to be concurrently related to their verbal aggression, physical aggression, peer ratings of dislike, peer ratings of friendliness, and prosocial behavior (Parke et al., 2001). Longitudinally, Lindsey, Caldera, and Tankersley (2009) found that the frequency and negativity of interparental conflict when children are 1 month old predict less positive peer interactions and more negative peer interactions when children are 36 months old. Similarly, Lindsey, Colwell, Frabutt, and

MacKinnon-Lewis (2006) showed that, in 8-year-old boys, interparental conflict is related to fewer mutual friendships and lower friendship quality. Furthermore, interparental hostility predicts higher levels of aggression in toddlers across cultures (Feldman, Masalha, & Derdikman-Eiron, 2010). These relations have also been shown to extend into adolescence, as interparental conflict predicts adolescents' peer aggression (Lindsey, Chambers, Frabutt, & Mackinnon-Lewis, 2009) and triangulation into interparental conflict tends to be associated with less perceived support from friends and more peer rejection among adolescents (Buehler, Franck, & Cook, 2009).

Parenting and Children's Social Competence

The associations between parental warmth and responsiveness and child social acceptance are well-documented (Chen, Rubin, & Li, 1997; Eiden, Colder, Edwards, & Leonard, 2009; Paley, Conger, & Harold, 2000; Zhou et al., 2002). Furthermore, with a group of 4.5–8-year-old children, Eisenberg and colleagues (2003) found that maternal positive emotional expressivity predicts child social competence two years later. Similarly, parental responsiveness has been shown to be related to social competence in 3–5-year-old children (Lindsey & Mize, 2001) as well as the quality of adolescents' friendships (Engels, Dekovic, & Meeus, 2002). There is also evidence that parental warmth is related to child prosocial behavior (Eiden et al., 2009; Kim et al., 2007; Knafo & Plomin, 2006). For example, Eiden and colleagues (2009) found that paternal warmth and sensitivity when children are two years old predict prosocial behavior in kindergarten.

The relation between parenting and children's aggression has also been well-documented. Toddlers' aggression is predicted by parents' ineffective discipline (Feldman et al., 2010) as well as angry and aggressive parenting (Conger, Neppl, Kim, & Scaramella, 2003). Similarly,

O'Connor and colleagues (2001) showed that parental warmth and support when children are 10 years old predict children's popularity at age 12, even after controlling for popularity at age 10. Likewise, parental negative control at age 10 predicts an increase in children's peer problems from age 10 to 12 (O'Connor et al., 2001). Furthermore, parental support and hostility have been shown to predict adolescents' interpersonal hostility (Williams, Conger, & Blozis, 2007) as well as their support and hostility with friends four years later (Cui, Conger, Bryant, & Elder, 2002).

Parenting as a Mediator in the Relation between Interparental Conflict and Children's Social Competence

The role of parenting as a mediator in the relation between interparental conflict and children's social competence is consistent with the spillover hypothesis, which posits that parents who have satisfying couple relationships are more available and sensitive to their children's needs, whereas parents who engage in a significant amount of interparental conflict are less attentive and sensitive to their children (as a result of feeling irritable and emotionally drained; Erel & Burman, 1995). In support of the spillover hypothesis, Almeida and colleagues (1999) showed that parents are more likely to have tense interactions with their children when there has been some tension in the couple relationship the previous day. Furthermore, in a meta-analysis, Krishnakumar and Buehler (2000) found a moderate association between interparental conflict and parenting, with the strongest effects of interparental conflict on parental acceptance and harsh discipline.

There is some evidence for the role of parenting as a mediator in the relation between interparental conflict and children's social competence (Parke et al., 2001). Parent-child attachment security and emotional reciprocity have been shown to mediate the relation between interparental conflict and 3-year-olds' positive and negative peer interactions (Lindsey, Caldera,

et al., 2009) as well as the association between interparental conflict and adolescents' overt and relational aggression with peers (Lindsey, Chambers, et al., 2009). Similarly, among 10–17-year-old girls, higher levels of interparental conflict are related to more trouble with peers, mediated by parental warmth (Vandewater & Lansford, 1998). Additionally, Gottman and Katz (1989) found that discord in parents' couple relationship is related to 4–5-year-olds' negative peer interactions, as mediated through negative parenting behaviors.

Children's Social Information Processing and Social Competence

It has been well-established that children's social information processing predicts their social competence (Dodge & Somberg, 1987). For example, children's social information processing in kindergarten has been shown to predict their aggressive behavior problems in third grade (Dodge, Laird, Lochman, & Zelli, 2002). Also, in second through fourth graders, social information processing with reference to entering a new group of children predicts their social competence upon group entry (Dodge, Pettit, McClaskey, & Brown, 1986). Furthermore, social information processing in response to provocation by these same peers predicts children's level of aggression toward the peers (Dodge et al., 1986). Moreover, Dodge and Somberg (1987) found that aggressive 8–10-year-old children are more likely to attribute hostile intentions to their peers, inaccurately interpret other children's intentions, and have a deficit in linking their attributions of their peers' intentions with appropriate behavioral responses. These biases and deficits have also been shown to be exaggerated when children are in threatening situations (Dodge & Somberg, 1987). The aforementioned findings are typically interpreted as children's hostile attribution biases (i.e., tendencies to ascribe hostile intentions to peers in ambiguous circumstances) that increase the likelihood that they will respond in an aggressive, retaliatory manner, thus decreasing the likelihood that they will respond with socially appropriate behavior

(Dodge & Somberg, 1987). One recent study, however, found support for reciprocal influences among children's social information processing, aggression, and peer rejection over 12 time points from kindergarten through third grade (Lansford, Malone, Dodge, Pettit, & Bates, 2010).

Children's Social Information Processing as a Mediator in the Relation between Children's Home Environments and Social Competence

Children's social information processing may act as a mediator in the relation between children's home environments (i.e., interparental conflict, parenting) and children's social competence by influencing children's schemata, or representations of family relationships (Bascoe, Davies, Sturge-Apple, & Cummings, 2009). Interparental and parent-child relationships have the potential to influence children's conflict schemata, encompassing their knowledge and beliefs about conflicts, in addition to any affective tags and behavior that they associate with conflict (Grych & Cardoza-Fernandes, 2001). Children's conflict schemata can influence their later conflicts with peers by affecting their expectations for and appraisals of future conflict, as well as the emotions that they are likely to experience and the coping skills that they are likely to use (Grych & Cardoza-Fernandes, 2001). This conceptualization is also consistent with attachment theory's tenet that children form internal representations, or working models, of family relationships in response to aspects of interparental conflict and parenting that they later extend to relationships with peers (Cassidy, Kirsh, Scolton, & Parke, 1996). Applying such schemata, internal representations, or working models to ambiguous situations with peers puts children at risk for interpreting their peers' intentions as unrealistically hostile, leading to a higher likelihood of aggression with peers, possibly eliciting aggressive and rejecting responses from peers, in return (Dodge et al., 1986; Grych & Fincham, 1990).

There is empirical evidence in support of the above theories on children's social information processing as a potential mediator of the association between children's home environments and social competence. Multiple studies have shown that in young children, physical child abuse and harsh discipline are associated with children's aggressive behavior with peers, mediated through children's maladaptive social information processing (Dodge, Bates, & Pettit, 1990; Weiss, Dodge, Bates, & Pettit, 1992). Moreover, in a longitudinal study, Pettit, Lansford, Malone, Dodge, and Bates (2010) found that harsh parenting when children are five years old predicts hostile social information processing biases at 22, further predicting violence toward peers one to two years later. Typically, parenting has been examined as the sole predictor in this model; however, Bascoe and colleagues (2009) examined both interparental conflict and parenting in relation to children's academic adjustment, through children's social information processing. They found that, when both interparental conflict and parenting were included in the model, only interparental conflict remained as a significant predictor (Bascoe et al., 2009). The present study extends the current literature by including both interparental conflict and parenting as predictors of children's social competence, as mediated through children's social information processing (see Figure 1).

Hypotheses

A structural model is proposed to account for the mechanism through which children's home environments (i.e., interparental conflict, parenting) predict children's social competence (see Figure 1). It is hypothesized that children's social information processing will serve as a mediator in the relations between interparental conflict and parenting and children's social competence. It is further hypothesized that interparental conflict and parenting will account for unique variance as predictors in this model, and that some of the impact of interparental conflict

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will be through its influence on parenting. To test these hypotheses, 429 couples visited the laboratory with their 4–8-year-old children a total of four times to participate in various observational, interview, and survey assessments. Interparental conflict and parenting were assessed six months prior to children's social information processing and social competence.

Method

Participants

Four hundred twenty-nine families participated in the study. All couples were married or living together in a committed relationship, had at least one child between the ages of four and eight, and were proficient in English. The families were recruited through random digit dialing of phone numbers in Suffolk County, New York. Telephone respondents were given a survey assessing eligibility criteria as well as demographic information, and eligible families were given the option to participate in the research protocol. Participating families were compensated $450 for a 10-hour, 4-session protocol. Families had two visits to the laboratory within two weeks of each other, followed by a similar pair of visits six months later.

Thirty-two of the 429 participating families were missing scores on more than 50% of the present study's variables; thus, they were not included in data analyses. Most of these families did not complete the Time 2 assessments, so they were missing scores for all of the dependent variables in the proposed model (see Figure 1). At the first time point, the 397 children in the final sample had an average age of 6.07 years ($SD = 1.42$). 51.9% of the children were male and 48.1% were female. The vast majority of participating couples were married (96.7%). The

participants self-identified as White (88.8%), Latino/Hispanic (5.0%), African American (3.1%), Asian American (2.3%), Native American (1.1%), Caribbean American (1.0%), Pacific Islander (0.3%), Multiracial (2.9%), and Other (0.9%); 1.3% declined to answer. Annual total family income was as follows: $50,000 or less (6.0%), $50,001 – $100,000 (41.1%), and over $100,001 (45.3%); 7.6% declined to answer.

Procedures

Families were told that they were participating in a study examining the effects of the family environment on children. As a part of the larger study, families came into the laboratory four times, twice initially and two more times six months later. Couples brought their children to the laboratory and participated in several activities. Parents completed questionnaires on their couple relationship and their child's functioning. The child participated in the Berkeley Puppet Interview (Measelle, Ablow, Cowan, & Cowan, 1998), during which two identical dog puppets made opposing statements about themselves, and then asked the child to choose which best described him/herself. The child also had a 35-minute Parent-Child Interaction (Snyder, Stoolmiller, Wilson, & Yamamoto, 2003) with his/her primary caregiver. During this interaction, the child planned an activity with this parent for the first seven minutes, solved a problem of the child's choice for the next seven minutes, solved a problem of the parent's choice for the next seven minutes, had seven minutes of snack time, and then read a book with his/her parent for the last seven minutes. Families were paid $25 after the first visit, $125 after the second, $25 after the third, and the remaining $275 after the fourth. Families were also offered a list of community resources after the fourth visit.

Measures

Berkeley Puppet Interview Coding System (BPICS). BPICS is an observational coding system designed to assess young children's perceptions as expressed during all items of the Berkeley Puppet Interview (BPI; Measelle et al., 1998). The BPI was shortened to include only the scales that were pertinent to the larger study, including the Children's Involvement in Interparental Conflict, Children's Perceived Intensity of Interparental Conflict, Children's Perceived Resolution of Interparental Conflict, Parental Positive Affect: Warmth and Enjoyment, Parental Negative Affect: Anger and Hostility, Parental Responsiveness, Peer Acceptance/Rejection, Overt Hostility, and Relational Aggression, for a total of 72 items. The Time 2 Peer Acceptance/Rejection, Relational Aggression, and Overt Hostility scales were used in the present study as indicators of social competence. The Time 1 Intensity, Involvement, and Resolution scales were included as indicators of interparental conflict (see Figure 1). An example question from the Peer Acceptance/Rejection scale involves one of the puppets saying, "I have lots of friends at school," and the other saying, "I don't have lots of friends at school," followed by, "How about you?"

Coders watched a videotape of each BPI and assigned a code from 1 to 7 to each of the child's statements, with 1 indicating negative perceptions and 7 indicating positive perceptions. Codes of 1 or 7 were used when children amplified the response option that was most like them or used superlatives to describe it. Codes of 2 or 6 were assigned when children chose the response option expressed by one of the puppets without making any changes. Codes of 3 or 5 were used when children modified a response option or added conditions to indicate that they didn't fully endorse either opposing statement about themselves. A code of 4 was recorded when children indicated that both response options applied to them. Answers could also be coded as unscorable.

Five coding groups of undergraduate students completed the BPICS coding. These coders were blind to the hypotheses of the study. Within each group, BPI videotapes were randomly assigned to coders. Each videotape was assigned to two coders and checked for reliability. All coders reached an interrater agreement of .90 (intraclass correlation coefficient) with the master coder after coding all training tapes and maintained an interrater agreement of .90 with their fellow coders throughout the project. All of the coding was checked for discrepancies and re-assigned to the original coders if they did not agree on all items. If coders were still unable to reach an agreement, the master coder determined the final codes for those particular items. In determining the final codes, the master coder also met with another expert coder to verify that they agreed on the codes before sharing them with the rest of the coding group.

To compute scale scores of the BPI, the individual codes (1 through 7) for each item in the scale were added together to yield the total scale score. Higher scale scores are indicative of more positive perceptions and better adjustment. For ease of use, however, scales have been transformed for the current study so that higher scores on positive scales are indicative of more positive adjustment (e.g., Peer Acceptance) and higher scores on negative scales are indicative of more negative adjustment (e.g., Overt Hostility).

Parental Warmth and Responsiveness Coding System. The Parental Warmth and Responsiveness Coding System is an observational coding system designed by the study investigators to assess the amount of warmth and responsiveness demonstrated by the child's primary caregiver during the Parent-Child Interaction (PCI; Snyder et al., 2003). Each 7-minute activity of the 35-minute interaction was given a code of 1 to 5 for parental warmth and a code of 1 to 4 for parental responsiveness. A code of 1 for parental warmth indicated the coldest end of the spectrum; normally marked by criticism, hostility, or detachment; and 5 denoted the warmest

extreme of the spectrum, given when the parent showed great enthusiasm, care, and affection for the child throughout the activity. Similarly, a code of 1 for parental responsiveness was indicative of less responsiveness, exemplified by parents who only focused on themselves or were not paying attention to the child, and a 4 represented highly responsive parents, such as those who were focusing on the child's needs, not on their own needs or solely on the directions for the task. In addition to the codes recorded for each activity of the interaction, global codes for both warmth and responsiveness were noted for each parent, overall. These global codes were overall warmth and responsiveness scores for the participants, not the average of the participants' scores on the activities within the interaction. In the current study, the global warmth and responsiveness codes were used as indicator variables for the observed parenting latent variable, within the overall positive parenting latent variable (see Figure 1).

Two undergraduate coders completed one semester of training with a graduate master coder. Once each of them had achieved a .60 intraclass correlation coefficient on global warmth and responsiveness, coding against the master coder, they began coding against each other. Each coder completed eight videotapes of PCIs per week for an additional semester, two of which overlapped with each other. The coders met weekly with the master coder to review the week's two overlapping videotapes and discuss any differences between their codes to prevent coder drift. The coders' final interrater reliabilities with each other were .85 for global warmth and .67 for global responsiveness (intraclass correlation coefficients).

Psychological Maltreatment of Women Inventory (PMWI). The PMWI is a 58-item measure designed to assess the level of male-to-female psychological abuse in a romantic relationship (Tolman, 1999). As part of the larger study, the 18 items of the dominance and jealousy subscales of the PMWI were administered to male and female partners. Both partners

were asked to rank 18 possible actions that may have occurred in their relationship over the past year, such as, "My partner told me my feelings were irrational or crazy," and, "I told my partner that his/her feelings were irrational or crazy," from "never" to "very frequently". The PMWI has been shown to discriminate between women in physically abusive relationships and women who are not currently experiencing physical abuse (Tolman, 1999). The PMWI also tends to have high associations with the nonphysical abuse subscale of the Index of Spouse Abuse (Tolman, 1999). The PMWI yields perpetration and victimization subscales for both dominance and jealousy for each reporter by summing the relevant items. Only the dominance subscales were used for the present study, as they represent a more extreme subset of items than the jealousy subscales. For each reporter, the dominance perpetration and victimization subscales were averaged together, as they were very highly correlated in the current sample ($r=0.65$–0.73). Thus, each partner's combined dominance perpetration and victimization score is represented in Figure 1 as an indicator for the verbal/psychological aggression latent variable, within the larger interparental conflict latent variable.

Family Maltreatment Measure (FMM). The FMM is a computerized measure developed by the researchers for the larger study to assess physical and verbal/psychological aggression. The FMM is a 46-item questionnaire that asks participants to rate different behaviors based on how frequently they have occurred in their romantic relationship in the last 6 months, from the options, "Once or twice," "3 to 5 times," "About once a month," "About every other week," "About once a week," "A few times a week," "About once a day," "A few times a day," and, "Never." Items include behaviors such as, "My husband/wife/boyfriend/girlfriend insulted or swore at me," and, "I swore at my husband/wife/boyfriend/girlfriend." For each participant, physical aggression perpetration and victimization scores, as well as verbal/psychological

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aggression perpetration and victimization scores, are computed by adding the participant's responses on each of the items in the subscale. For the present study, each reporter's verbal/psychological aggression perpetration and victimization scores were averaged together. The same was done for each reporter's physical aggression perpetration and victimization scores. This procedure was deemed appropriate because within-reporter perpetration and victimization scores were very highly interrelated (r=0.73–0.85). The resulting four subscales are shown in Figure 1 as the indicator variables for the physical aggression latent variable, within the interparental conflict latent variable. Other aspects of abuse assessed by the FMM, including severity, were not used in the present study.

In developing the FMM, the literature on intimate partner violence and child maltreatment was first reviewed to identify important dimensions of abuse, as well as existing self-report measures. Next, definitions of neglect and physical, emotional, and sexual abuse were created, including occurrence, physical harm, emotional harm, and potential for harm. These definitions' reliability and validity were tested in a field study with community review boards processing allegations and demonstrated excellent psychometrics (Heyman & Slep, 2006).

As detailed in Heyman & Slep (2006), after drafting multi-dimensional definitions and a self-report measure, a content validity (Haynes, Richard, & Kubany, 1995) study was conducted. Twenty-two child maltreatment and 22 partner violence measurement experts participated in the study and rated all aspects of the definitions and measures for relevance and other characteristics, in addition to responding to open-ended questions. Their extensive feedback was used to refine the definitions and measures. Two slightly different measures were then constructed and pilot tested with over 200 families. Their responses were compared with the CTS2 and CTS-PC (Straus, Hamby, Boney-McCoy, & Sugarman, 1996; Straus, Hamby, Finkelhor, Moore, &

Runyan, 1998), the current state-of-the-art measures in the field. Results indicated that the revised measures retained many of the good qualities of the CTS2 and CTS-PC while also assessing additional information; however, the measures' simple skip patterns seemed to be limiting the reliability of some of that information. Based on these results, a computer-administered questionnaire was developed that could employ far more complex and specific skip patterns, without adding to respondent burden or introducing additional sources of unreliability. This computer-administered version was quite well-received by focus groups.

A somewhat streamlined version of the computer-administered questionnaire was administered to approximately 3,000 Air Force family members as part of the 2003 Biennial Community Survey (Slep & Heyman, 2008). This questionnaire was then administered to approximately 80,000 Air Force family members in 2006 (e.g., Slep, Foran, Heyman, & Snarr, 2010; Slep, Foran, Heyman, & Snarr, 2011). Finally, a smaller, more in-depth validity study was conducted with respondents who had reported partner or parent-child aggression on a computerized questionnaire. Participants were asked to orally describe the incidents of aggression (or prototypical incidents, if frequency was high; Heyman, Slep, Snarr, & Foran, 2013) while a computer recorded their responses. Experts then coded the recordings to evaluate the degree to which the incidents described matched the classifications generated by the original computer-administered questionnaire (National Incidence Study of Child Abuse and Neglect validation procedures; Sedlak & Broadhurst, 1996).

Health and Behavior Questionnaire (HBQ). The HBQ (Essex et al., 2002) is a 147-item parent-report questionnaire that assesses children's emotional and behavioral symptoms, physical health, social adaptation, and school adaptation. The measure was developed to be a developmentally sensitive assessment of these constructs among 4–8-year-old children.

Administered in two epidemiological studies, the HBQ appears to have adequate test-retest and inter-rater reliabilities (Essex et al., 2002). Parents rate each item from "not at all like [my child]" to "very much like [my child]." The present study uses the Peer Acceptance, Overt Hostility, and Relational Aggression scales of the HBQ as indicator variables of the maternal and paternal report social competence latent variables, within the larger social competence latent variable (see Figure 1). An example item from the Peer Acceptance scale reads, "Is often left out by other children." The Hostility scale is made up of items such as, "Kicks, bites, or hits other children," and the Relational Aggression scale includes items similar to, "Tries to get others to dislike a peer."

Social Information Processing Measure. The Social Information Processing Measure was adapted from an interview developed by Dodge and Somberg (1987). Children were read stories about brief social interactions with a same-sex child. They were also shown corresponding pictures about the interactions. They were then asked if the other child was trying to be mean or if the incident was an accident. Next, they were asked what they would do in response to the event. An example of one such story reads, "Pretend that you are standing on the playground playing catch with a kid named Jimmy. You throw the ball to Jimmy and he catches it. You turn around, and the next thing you realize is that Jimmy has thrown the ball and hit you in the middle of your back. The ball hits you hard, and it hurts a lot. Why do you think Jimmy hit you in the back? What would you do about Jimmy after he hit you?"

Each child's interview was videotaped and later coded. The child's response to the first question was coded as "accidental/unintentional," "accidental/intentional," or "hostile". The child's response to the second question was coded on a scale indicating increasing aggression, consisting of the options, 0 — "don't know," 1 — "nothing," 2 — "ask why, ask again," 3 —

"command the other child / seek an adult intervention," 4 — "make a threat to the child/seek an adult to punish the child," or 5 — "retaliate." One master coder completed the coding for the majority of the participants and approximately 45% of the videotapes were coded by one of three other coders for reliability. Coders' intra-class correlation coefficients ranged from .90 to .96. The hostile attribution bias scale was then computed for each subject by calculating the percentage of his/her answers that ascribed hostile intentions to the other child. Higher scores indicate a proclivity to perceive one's peers' intentions as more hostile, even in ambiguous situations (like the example story described above). The behavioral response scale was calculated in a similar way from each child's statements about how he/she would respond to peers in hypothetical social situations. The percentage of the child's replies that endorsed aggressive or threatening responses (codes of 4 or 5) was calculated. Higher scores are indicative of more aggressive behavioral responses. The hostile attribution bias and behavioral response scales were used as indicator variables of the social information processing latent variable in the present study (see Figure 1).

As children's hostile attribution biases are hypothesized to be increased under conditions of threat (Dodge & Somberg, 1987), a procedure developed by Dodge and Somberg (1987) was implemented midway through the Social Information Processing Measure to induce a sense of social threat in the participants. The target child was told that another child would be brought into the room to play with him/her and that the experimenter would go get the other child. The experimenter then left the room and had a conversation with the other child, which was "accidentally" broadcasted into the room where the target child was waiting. During this conversation, the other child told the experimenter that he/she did not want to play with the target child and called the experimenter "mean," followed by a temper tantrum. The

experimenter then re-entered the room with the target child, told him/her that he/she would play with the other child later, and continued administering the second half of the Social Information Processing Measure. The interaction between the experimenter and the other child was, in fact, a recording.

Results

Data Screening

The data were examined for nonnormality and missing values. First, each variable was inspected for possible outliers. Scores more than three standard deviations away from the variable's mean (and not part of the sloping normal curve) were adjusted to be closer to the mean, yet still at the upper/lower end of the distribution. Next, nonnormal variables were transformed. The means, standard deviations, and bivariate correlations among all untransformed study variables are shown in Table 1.

Bayesian multiple imputation was then performed in AMOS 20.0 (Arbuckle, 2011), creating ten datasets that estimated missing values from participants' scores on other scales in the hypothesized measurement model (see Figure 2). Throughout the process of evaluating model fit, each model was analyzed using each of the ten multiply imputed datasets. The resulting estimates of each model's standardized regression coefficients and significance levels were then combined using Tufis' Excel worksheet (2011), according to Rubin's (1987) formulae. Following Allison's (2003) recommendations for combining model fit statistics in structural equation modeling with multiply imputed datasets, Root Mean Squared Errors (RMSEAs) and

Comparative Fit Indices (CFIs) were averaged across the ten datasets to achieve the final fit statistics for each model.

Data Analyses

Before testing the proposed structural model (see Figure 1), the overall measurement model was examined (see Figure 2), as well as individual measurement models for each higher-order latent variable. As shown in Figure 2, the overall measurement model was not a satisfactory fit for the data, Root Mean Square Error of Approximation (RMSEA) = .045, *p* of Close Fit (PCLOSE) = 0.929, Comparative Fit Index (CFI) = .635. The RMSEA and PCLOSE are indicative of a close-fitting model; however, the CFI is more consistent with a poor fit.

Interparental Conflict Measurement Model. Within the interparental conflict latent variable, children's report of their involvement in their parents' conflict was not significantly associated with the latent variable representing children's overall report of interparental conflict. The modification indices demonstrated that this variable was instead strongly associated with a separate latent variable (parents' report of verbal aggression); thus, children's report of involvement in their parents' conflict was dropped from the model. Next, the error term for mothers' report of verbal/psychological aggression on the Family Maltreatment Measure (FMM) was allowed to be correlated with the error terms for mothers' report of physical aggression on the FMM and psychological aggression on the Psychological Maltreatment of Women Inventory (PMWI). The same procedure was replicated for fathers' report of aggression. These changes improved model fit, but children's report of the resolution of their parents' conflict was no longer significantly associated with the latent variable representing children's overall report of interparental conflict; thus, the resolution variable was also dropped from the model. As a result,

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children's report of the intensity of their parents' conflict is the only child report interparental conflict variable that remains in the revised measurement model (see Figure 3).

Positive Parenting Measurement Model. As shown in Figure 2, the observed parenting latent variable was not significantly associated with its higher order factor, positive parenting. Furthermore, observed parenting was significantly related to one of its two indicator variables (observed warmth), but not the other (observed responsiveness). Thus, the observed parenting latent variable was cut from the model and replaced with only one indicator variable: observed responsiveness. Next, the modification indices revealed that children's report of both maternal and paternal anger and hostility toward them was strongly related to children's report of the intensity of interparental conflict, undermining the measurement model with high loadings on both the positive parenting and interparental conflict latent variables. Removing the maternal and paternal anger indicator variables from the positive parenting latent variable greatly improved model fit. Lastly, allowing the error terms to be correlated for children's report of maternal and paternal responsiveness led to an improvement in model fit (see Figure 3)

Social Information Processing and Social Competence Measurement Models. The children's social information processing latent variable was left unchanged, as it was already a good fit for the data (see Figure 2). Within the social competence measurement model, allowing the error terms to be correlated for maternal and paternal reports on the same aspects of children's social competence (i.e., peer acceptance, relational aggression, overt hostility) substantially improved the model fit. Allowing the error term for child report peer acceptance to be correlated with the error term for maternal report peer acceptance also enhanced the fit of the model (see Figure 3). The updated overall measurement model is a good fit for the data, as

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indicated by its excellent fit statistics (RMSEA = .030, PCLOSE = 1.000, CFI = .866) and lack of insignificant paths between latent variables and their respective indicator variables.

Structural Model. Next, the original hypothesized structural model was evaluated with the updated measurement model in place (see Figure 4). The structural model was an acceptable fit for the data, RMSEA = .033, PCLOSE = 1.000, CFI = .834. Most of the structural model's paths were statistically significant (with the exception of the path between interparental conflict and children's social information processing); however, the residual error variance for the social competence latent variable was negative. Thus, the standardized estimate for the path between the social information processing and social competence latent variables was substantially above 1 (β = -1.13), an impossible value (see Figure 4). It was hypothesized that this negative residual error variance was due to missing paths. The addition of direct paths from parenting and interparental conflict to children's social competence is consistent with the parent socialization hypothesis (Conger, Cui, Bryant, & Elder, 2000) and social learning theory (Bandura, 1977), respectively. Thus, direct paths were added to children's social competence from both positive parenting and interparental conflict. The addition of these paths resolved the negative residual error variance for social competence, but it rendered the paths from interparental conflict to social information processing and social competence insignificant. To address this decrement in model fit, these two paths were dropped.

As shown in Figure 5, the final model yields a satisfactory model fit (RMSEA = 0.030, PCLOSE = 1.000, CFI = 0.867) and displays significant paths ($p < .05$). Within the model, interparental conflict and positive parenting each exert statistically significant indirect effects on children's social competence (β = -.28, $p < .05$; β = .15, $p < .05$; respectively).

Discussion

It was hypothesized that children's social information processing would mediate the pathways between their home environments (i.e., interparental conflict, parenting) and social competence (see Figure 1). Both interparental conflict and parenting were hypothesized to have unique, indirect contributions to children's later social competence. It was further predicted that part of interparental conflict's contribution would be through its effect on parenting. The final model is largely consistent with these hypotheses (see Figure 5). Parenting has a significant indirect effect on children's later social competence, through children's social information processing ($\beta = .15, p < .05$). Similarly, interparental conflict significantly predicts children's social competence, through parenting and children's social information processing ($\beta = -.28, p < .05$). In contrast, the final model also shows a significant direct effect of parenting on children's social competence that was not present in the original hypothesized model ($\beta = .73, p < .05$). Further, in the context of the final model, the pathway between interparental conflict and children's social information processing is no longer significant ($p > .05$).

The present study adds to the literature by clarifying the mechanisms through which children's home environments (i.e., interparental conflict, parenting) influence their social competence. Examining children's social information processing as such a mechanism bridges two well-developed literatures examining (a) the effects of parenting and interparental conflict on children's internalizing and externalizing disorders and (b) the influence of parenting alone on children's social competence (through social information processing). The finding that interparental conflict does not directly affect children's social information processing or social competence, but rather indirectly affects children's outcomes through parenting, is consistent with the spillover hypothesis (Erel & Burman, 1995). In addition, this result confirms aspects of

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the cognitive contextual framework (Grych & Fincham, 1990) and the emotional security theory (Davies & Cummings, 1994), as they also highlight the role of parenting in shaping the effects of interparental conflict on children's adjustment.

The present study's finding that children's social information processing mediates the influence of parenting on children's social competence is in line with the tenets of attachment theory (Cassidy et al., 1996) and the cognitive contextual framework (Grych & Fincham, 1990) that emphasize the home environment's indirect effects on children's adjustment, through their conflict schemata, internal representations, or working models of relationships (Cassidy et al., 1996; Grych & Cardoza-Fernandes, 2001). Such theories specify that children internalize characteristics of family relationships that affect their behavior with peers by influencing their expectations, perceptions, emotional responses, and coping skills in future social situations (Grych & Cardoza-Fernandes, 2001). Children whose parents exhibit low levels of warmth and responsiveness may be at risk for demonstrating hostile attribution biases with peers, ascribing hostile intentions to others in ambiguous or neutral situations. These biased assumptions may stem from internalized negative aspects of family life, such as cold or intrusive parenting, that cause children to have negative expectations for how others will treat them in the future. Such maladaptive working models of relationships may bias children's perceptions and emotional responses in social situations by predisposing them to perceive threat or hostility in their absence, leading to unwarranted negative emotional responses that decrease the likelihood of responding and coping effectively. Such tendencies to misconstrue peers' intentions as hostile may also lead children to behave more aggressively with peers, increasing their risk of peer rejection and aggressive retaliatory responses from others (Dodge et al., 1986; Grych & Fincham, 1990). Moreover, it has been shown that these processes can be self-perpetuating, as

the negative reactions from peers elicited by children's inappropriate, aggressive behavior reinforce children's negative expectations for future social interactions (Lansford et al., 2010). Such findings highlight the importance of prevention and early intervention programs in averting or interrupting these types of self-perpetuating processes before children's biases and reputations with peers become increasingly entrenched.

The significant direct association between parenting and children's social competence is consistent with the assertions of the parent socialization hypothesis that positive parenting behaviors help children to develop the interpersonal skills needed to succeed in later relationships (Conger et al., 2000). It is possible that parents who exhibit more warmth and responsiveness with their children are modeling adaptive social skills for them. Children may then call upon these healthy models during social interactions with their peers, helping them to perform more adaptively and increasing their acceptance by their peers (Bandura, 1977; Conger et al., 2000). This pathway is also consistent with those of previous studies that have found significant associations between parental warmth and responsiveness and social competence in young children (e.g., Eisenberg et al., 2003; Lindsey & Mize, 2001).

The present study's findings are not consistent with those of Bascoe et al. (2009), who examined social information processing as a mediator in the link between children's home environments (i.e., interparental conflict, parenting) and academic adjustment. They found that parenting only had a significant indirect effect on children's adjustment, through children's social information processing, when interparental conflict was not included in the model. Once interparental conflict was added to the model, however, only the indirect effect of interparental conflict remained significant. In contrast to these findings, the present study's results indicate that parenting retains a significant indirect effect on children's social competence when

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interparental conflict is included in the model. In fact, with parenting in the model, it is interparental conflict that does not exhibit significant direct associations with children's social information processing or social competence. It is possible that these conflicting findings stem from discrepancies between the studies' outcome measures, as Bascoe et al. (2009) used teacher report measures of children's academic adjustment, as opposed to the current study's child and parent report indicators of children's social competence.

Further, Bascoe and colleagues (2009) assessed children's representations of the interparental and parent-child relationships with child report story stem measures, as opposed to the present study's measures of interparental conflict and parenting that encompassed observational coding, parent report questionnaires, and child report story stem interviews. Such differences in the measurement of children's home environments may be driving the discrepancy in findings. For instance, it is possible that children's representations of interparental conflict are more strongly linked with their social information processing than their representations of parent-child relationships, causing parenting to drop out of the model in Bascoe and colleagues' (2009) study. Likewise, observed parenting behaviors may have stronger links with children's social information processing than a multiple informant assessment of interparental conflict, retaining parenting in the present study's final model (see Figure 5). Also, the inclusion of observed parenting behaviors in the present study may have added unique variance to the positive parenting latent variable not present in Bascoe et al.'s (2009) child report assessment of parenting, thus increasing parenting's unique contributions within the current study's final model.

Limitations and Future Directions

The present study has several limitations. First, the predictor variables were measured six months before the mediator and dependent variables, limiting the conclusions that can be drawn about causality. A longer amount of time between assessments would have been ideal, as would have been measuring the mediators at a separate time point. Future studies could more rigorously test the model proposed here using a longitudinal design with longer time spans between assessments, examining interparental conflict at Time 1, parenting at Time 2, children's social information processing at Time 3, and children's social competence at Time 4. It would also be ideal to use a cross-lagged panel design across each of these time points to better pinpoint causal and reciprocal effects amongst the variables.

Children's report of triangulation into interparental conflict was eliminated from the original hypothesized measurement model (see Figure 2) to improve model fit. The triangulation variable was not highly associated enough with the other interparental conflict items, most of which tapped the intensity of interparental conflict. Given the demonstrated negative effects of triangulation on children (Franck & Buehler, 2007; Grych, Raynor, & Fosco, 2004), future studies may choose to examine this aspect of interparental conflict in more detail in relation to parenting, social information processing, and social competence. It may also be informative to examine the differential influences of fathers' and mothers' interparental conflict and parenting behaviors on children's social information processing and social competence, especially given the evidence for fathers' impact on children's developing social skills (Baker, Fenning, & Crnic, 2011; Chang, Schwartz, Dodge, & McBride-Chang, 2003).

Implications

The results of the present study may be useful in informing intervention programs with high conflict families. The salience of positive parenting behaviors in predicting children's social

competence both directly and indirectly highlights the importance of parenting interventions in the context of high levels of interparental conflict, specifically focusing on improving positive aspects of parenting (e.g., warmth, responsiveness). Similarly, the significance of children's social information processing as a mediator in the pathway between their home environments and social competence indicates that direct interventions with children may also be helpful. Such interventions could train children to correct hostile attribution biases by teaching them to better interpret their peers' intentions and choose more appropriate behavioral responses (Ladd, Buhs, & Troop, 2004). Moreover, the identification of young children's social information processing as a mechanism may allow healthcare professionals to intervene with at-risk children earlier, possibly even before they begin to show signs of poor social competence. Facilitating early interventions for social competence is especially important because such interventions tend to become less effective over time, as children's reputations become increasingly fixed in their peer groups (Malik & Furman, 1993).

Conclusions

The final model outlines pathways whereby parenting predicts children's social competence directly and indirectly, through children's social information processing (see Figure 5). Further, interparental conflict indirectly predicts children's social competence, through parenting and social information processing. These pathways highlight the possible utility of two types of interventions to improve children's social competence in high conflict homes: (a) parenting interventions aimed at increasing positive parenting behaviors (e.g., warmth, responsiveness) and (b) direct interventions with children designed to correct their hostile attribution biases (e.g., Ladd et al., 2004).

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Table 1

Correlations Among Major Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
M FMM Psy[1]	---	.49***	.45***	.70***	.41***	.24***	.15**	.12*	-.10	-.10*	-.17**	-.07	-.11*	.07
D FMM Psy[1]		---	.66***	.46***	.32***	.45***	.16**	.07	-.09	-.11*	-.13*	-.04	.02	.05
M PMWI D[1]			---	.54***	.31***	.43***	.17**	.03	-.14**	-.11*	-.17**	-.04	.04	.01
D PMWI D[1]				---	.33***	.25***	.16**	.09	-.05	-.10	-.21***	-.10	-.08	.06
M FMM Phs[1]					---	.51***	.19***	.11*	-.07	-.02	-.04	-.06	-.04	.08
D FMM Phs[1]						---	.18***	.05	-.12*	-.03	-.01	.00	.01	.06
C BPI Intens[1]							---	-.01	-.18***	-.02	-.04	-.11*	-.03	.33***
C BPI Involv[1]								---	-.16**	.05	.01	-.10*	-.09	.17**
C BPI Resol[1]									---	-.14**	-.04	.04	.09	-.20***
O PCI Warm[1]										---	.58***	.05	.01	.08
O PCI Resp[1]											---	.13*	.06	.05
C BPI M W[1]												---	.33***	-.16**
C BPI M Rsp[1]													---	-.15**
C BPI M Ag[1]														---
C BPI D W[1]														
C BPI D Rsp[1]														
C BPI D Ag[1]														
C Attribut[2]														
C Beh Res[2]														
C BPI Peer[2]														
C BPI Rel A[2]														
C BPI Host[2]														
M HBQ Peer[2]														
M HBQ Rl A[2]														
M HBQ Host[2]														
D HBQ Peer[2]														
D HBQ Rl A[2]														
D HBQ Host[2]														
Mean	.25	.23	1.20	1.16	.03	.03	3.58	3.06	4.73	3.54	3.32	5.74	5.53	2.81
SD	.36	.33	.25	.22	.11	.09	1.40	1.10	1.15	.66	.67	.61	.83	1.13

Table 1 (continued)

Correlations Among Major Study Variables

Variable	15	16	17	18	19	20	21	22	23	24	25	26	27	28
M FMM Psy[1]	-.09	-.07	.17**	.06	.10	.01	-.02	.09	-.13*	.22***	.22***	-.08	.26***	.23***
D FMM Psy[1]	-.02	.03	.09	-.03	.15**	-.04	.04	.12*	-.16**	.22***	.26***	-.09	.13*	.16**
M PMWI D[1]	-.11*	.05	.09	-.04	.16**	-.08	.02	.05	-.25***	.30***	.38***	-.10	.19***	.20***
D PMWI D[1]	-.13*	-.04	.11*	-.02	.02	-.06	-.01	.09	-.13*	.18**	.18**	-.11*	.24***	.17**
M FMM Phs[1]	-.12*	.01	.12*	.03	.01	.01	.00	.01	-.10	.16**	.13*	-.08	.18**	.09
D FMM Phs[1]	.01	.02	.06	.04	.12*	-.03	.09	.06	-.13*	.21***	.17**	-.02	.09	.08
C BPI Intens[1]	-.02	-.03	.37***	-.01	.06	-.11	.06	.05	-.07	.12*	.11*	.01	.12*	-.01
C BPI Involv[1]	-.04	-.05	.10	.11*	.14*	-.05	.19**	.25***	.00	.07	-.02	-.11	.09	-.04
C BPI Resol[1]	.05	.08	-.22***	-.01	-.13*	.13*	-.14**	-.16**	.11*	-.08	-.06	.06	-.02	-.01
O PCI Warm[1]	.09	.01	.02	-.05	-.05	.10	-.10	.03	.09	-.04	-.10	.07	-.13*	-.13*
O PCI Resp[1]	.18**	.06	-.01	-.01	-.08	.16**	-.14*	-.08	.11*	-.08	-.13*	.10	-.13*	-.10
C BPI M W[1]	.31***	.29***	-.10*	-.11*	-.06	.23***	-.20***	-.29***	.03	-.09	.05	.07	-.09	-.12*
C BPI M Rsp[1]	.24***	.42***	-.10	-.12*	-.09	.13*	-.14**	-.16**	-.02	-.08	.03	.00	-.08	-.18**
C BPI M Ag[1]	-.05	-.16**	.55***	.02	-.01	-.13*	.09	.14**	.08	.00	.05	-.09	-.02	.01
C BPI D W[1]	---	.42***	-.18**	.02	-.16**	.28***	-.21***	-.20***	.10	-.09	-.13*	.12*	-.13*	-.18**
C BPI D Rsp[1]		---	-.19***	-.02	-.09	.24***	-.18**	-.27***	.10	.03	.06	.04	-.03	-.07
C BPI D Ag[1]			---	.02	.09	-.14**	.18**	.16**	-.06	.04	.08	-.12*	.07	.05
C Attribut[2]				---	.28***	-.05	.13*	.10	.05	.03	.00	.03	.08	.17**
C Beh Res[2]					---	-.28***	.29***	.33***	-.08	.15**	.19***	-.07	.12*	.19***
C BPI Peer[2]						---	-.31***	-.22***	.19**	-.01	-.03	.18**	-.09	-.09
C BPI Rel A[2]							---	.46***	-.07	.10	.05	-.10	.15**	.07
C BPI Host[2]								---	-.01	.07	.01	-.05	.06	.15**
M HBQ Peer[2]									---	-.23***	-.40***	.32***	-.18**	-.11*
M HBQ Rl A[2]										---	.46***	-.06	.33***	.25***
M HBQ Host[2]											---	-.16**	.27***	.39***
D HBQ Peer[2]												---	-.33***	-.23***
D HBQ Rl A[2]													---	.43***
D HBQ Host[2]														---
Mean	5.71	5.47	3.43	.54	.13	5.39	2.64	1.86	3.62	.15	.26	3.62	.14	.21
SD	.68	.92	1.19	.24	.21	.88	1.00	.64	.48	.21	.29	.41	.18	.24

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Table 1 Note. M FMM Psy = Mom report Family Maltreatment Measure (FMM) Verbal/Psychological Aggression Perpetration and Victimization subscales; D FMM Psy = Dad report FMM Verbal/Psychological Aggression Perpetration and Victimization subscales; M PMWI D = Mom report Psychological Maltreatment of Women Inventory (PMWI) Dominance Perpetration and Victimization subscales; D PMWI D = Dad report PMWI Dominance Perpetration and Victimization subscales; M FMM Phs = Mom report FMM Physical Aggression Perpetration and Victimization subscales; D FMM Phs = Dad report FMM Physical Aggression Perpetration and Victimization subscales; C BPI Intens = Child report Berkeley Puppet Interview (BPI) Intensity of Interparental Conflict scale; C BPI Involv = Child report BPI Involvement in Interparental Conflict scale; C BPI Resol = Child report BPI Resolution of Interparental Conflict scale; O PCI Warm = Observed PCI Global Warmth scale; O PCI Resp = Observed PCI Global Responsiveness scale; C BPI M W = Child report BPI Maternal Warmth scale; C BPI M Rsp = Child report BPI Maternal Responsiveness scale; C BPI M Ag = Child report BPI Maternal Anger/Hostility scale; C BPI D W = Child report BPI Paternal Warmth scale; C BPI D Rsp = Child report BPI Paternal Responsiveness scale; C BPI D Ag = Child report BPI Paternal Anger/Hostility scale; C Attribut = Negativity of child's self-reported attributions about peers' motives (hostile attribution bias); C Beh Res = Aggressiveness of child's self-reported behavioral responses to peers; C BPI Peer = Child report BPI Peer Acceptance scale; C BPI Rel A = Child report BPI Relational Aggression scale; C BPI Host = Child report BPI Overt Hostility scale; M HBQ Peer = Mom Report Health and Behavior Questionnaire (HBQ) Peer Acceptance scale; M HBQ Rl A = Mom Report HBQ Relational Aggression scale; M HBQ Host = Mom Report HBQ Overt Hostility scale; D HBQ Peer = Dad Report HBQ Peer Acceptance scale; D HBQ Rl A = Dad Report HBQ Relational Aggression scale; D HBQ Host = Dad Report HBQ Overt Hostility scale.

[1]Time 1. [2]Time 2.

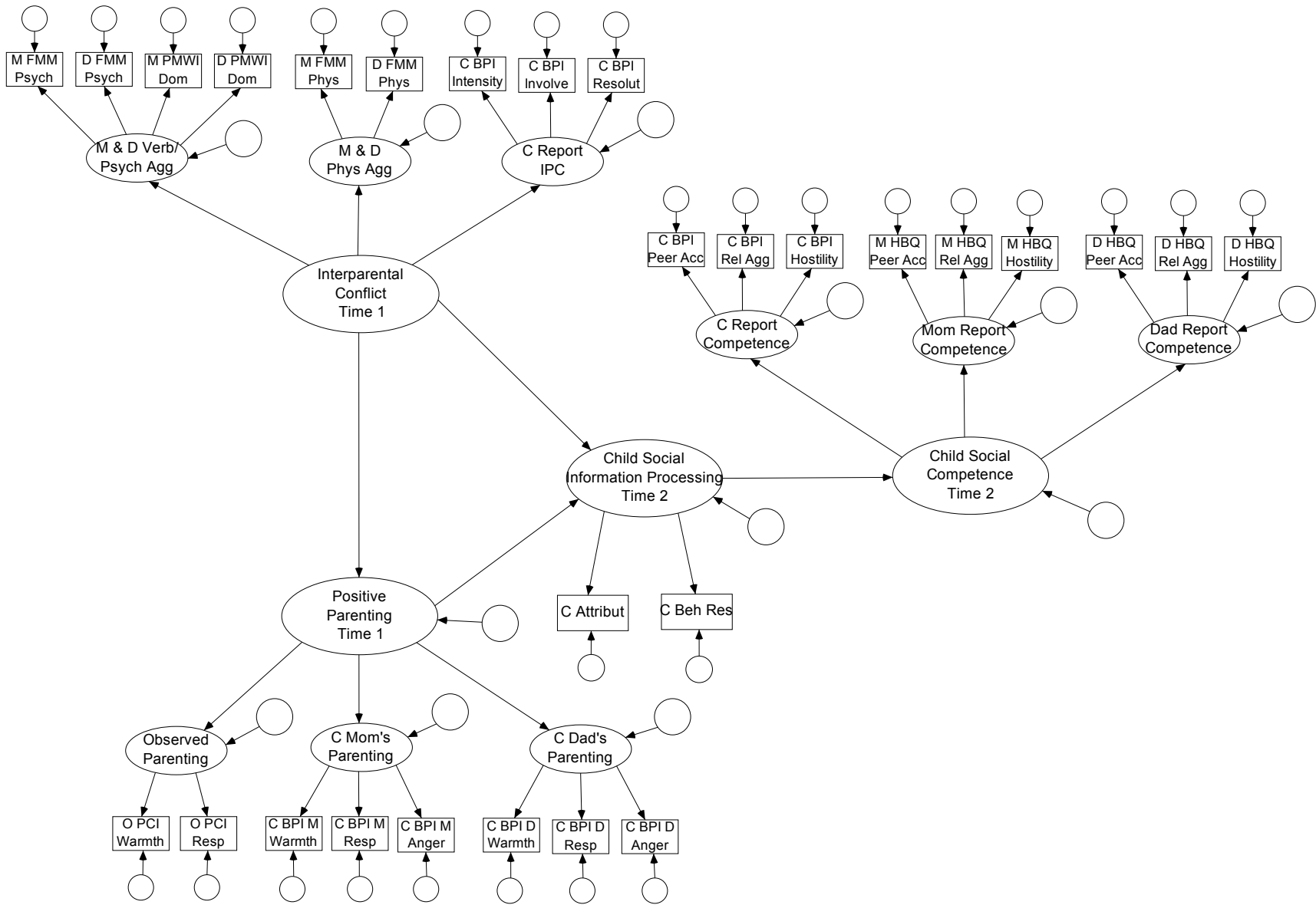* $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 1. The hypothesized structural model of the effects of children's home environments at Time 1 (i.e., interparental conflict, parenting) on their social competence at Time 2, as mediated by social information processing. Interparental Conflict Time 1 = Negativity/intensity of interparental conflict at Time 1; M & D Verb/Psych Agg = Mom and Dad report of verbal/psychological aggression; M FMM Psych = Mom report Family Maltreatment Measure (FMM) Verbal/Psychological Aggression Perpetration and Victimization subscales; D FMM Psych = Dad report FMM Verbal/Psychological Aggression Perpetration and Victimization subscales; M PMWI Dom = Mom report Psychological Maltreatment of Women Inventory (PMWI) Dominance Perpetration and Victimization subscales; D PMWI Dom = Dad report PMWI Dominance Perpetration and Victimization subscales; M & D Phys Agg = Mom and Dad report of physical aggression; M FMM Phys = Mom report FMM Physical Aggression Perpetration and Victimization subscales; D FMM Phys = Dad report FMM Physical Aggression Perpetration and Victimization subscales; C Report IPC = Child report of interparental conflict; C BPI Intensity = Child report Berkeley Puppet Interview (BPI) Intensity of Interparental Conflict scale; C BPI Involve = Child report BPI Involvement in Interparental Conflict scale; C BPI Resolut = Child report BPI Resolution of Interparental Conflict scale; Positive Parenting Time 1 = Positivity of maternal and paternal parenting behaviors at Time 1; Observed parenting = Observational coding of the Parent-Child Interaction (PCI) task, involving the child and his/her primary caregiver (most commonly his/her mother); O PCI Warmth = Observed PCI Global Warmth scale; O PCI Resp = Observed PCI Global Responsiveness scale; C Mom's Parenting = Child report of Mom's parenting; C BPI M Warmth = Child report BPI Maternal Warmth scale; C BPI M Resp = Child report BPI Maternal Responsiveness scale; C BPI M Anger = Child report BPI Maternal Anger/Hostility scale; C Dad's Parenting = Child report of Dad's parenting; C BPI D Warmth = Child report BPI Paternal Warmth scale; C BPI D Resp = Child report BPI Paternal Responsiveness scale; C BPI D Anger = Child report BPI Paternal Anger/Hostility scale; Child Social Information Processing Time 2 = Hostility of child's report on the Social Information Processing Measure at Time 2; C Attribut = Negativity of child's self-reported attributions about peers' motives (hostile attribution bias); C Beh Res = Aggressiveness of child's self-reported behavioral responses to peers; Child Social Competence Time 2 = Child social competence at Time 2; C Report Competence = Child self-report social competence; C BPI Peer Acc = Child report BPI Peer Acceptance scale; C BPI Rel Agg = Child report BPI Relational Aggression scale; C BPI Hostility = Child report BPI Overt Hostility scale; Mom Report Competence = Mom Report of Child Social Competence; M HBQ Peer Acc = Mom Report Health and Behavior Questionnaire (HBQ) Peer Acceptance scale, M HBQ Rel Agg = Mom Report HBQ Relational Aggression scale, M HBQ Hostility = Mom Report HBQ Overt Hostility scale; Dad Report Competence = Dad Report of Child Social Competence; D HBQ Peer Acc = Dad Report HBQ Peer Acceptance scale, D HBQ Rel Agg = Dad Report HBQ Relational Aggression scale, D HBQ Hostility = Dad Report HBQ Overt Hostility scale.

M FMM Psych | D FMM Psych | M PMWI Dom | D PMWI Dom | M FMM Phys | D FMM Phys | C BPI Intensity | C BPI Involve | C BPI Resolut

.74*** .81*** .73*** .82***

M & D Verb/Psych Agg

.74*** .73***

M & D Phys Agg

.12 .08 -.09

C Report IPC

.77*** .71*** .54**

Interparental Conflict Time 1

O PCI Warmth | O PCI Resp | C BPI M Warmth | C BPI M Resp | C BPI M Anger | C BPI D Warmth | C BPI D Resp | C BPI D Anger

.58* .91 .50*** .55*** -.43*** .69*** -.47***

Observed Parenting

C Mom's Parenting

.59***

C Dad's Parenting

.23 .89*** .98***

Positive Parenting Time 1

C Attribut | C Beh Res

.35*** .83***

Child Social Information Processing Time 2

C BPI Peer Acc | C BPI Rel Agg | C BPI Hostility | M HBQ Peer Acc | M HBQ Rel Agg | M HBQ Hostility | D HBQ Peer Acc | D HBQ Rel Agg | D HBQ Hostility

49*** .57*** -.55*** -.49*** -.70*** .62*** .69***

C Report Competence

45***

Mom Report Competence

.47***

Dad Report Competence

.87*** .46* .64***

Child Social Competence Time 2

-.29* -.18* -.57***

.15 .66***

-.33

* *p* < .05, ** *p* < .01, *** *p* < .001

40

Figure 2. The hypothesized measurement model of the relations between interparental conflict at Time 1, parenting at Time 1, children's social information processing at Time 2, and children's social competence at Time 2. Interparental Conflict Time 1 = Negativity/intensity of interparental conflict at Time 1; M & D Verb/Psych Agg = Mom and Dad report of verbal/psychological aggression; M FMM Psych = Mom report Family Maltreatment Measure (FMM) Verbal/Psychological Aggression Perpetration and Victimization subscales; D FMM Psych = Dad report FMM Verbal/Psychological Aggression Perpetration and Victimization subscales; M PMWI Dom = Mom report Psychological Maltreatment of Women Inventory (PMWI) Dominance Perpetration and Victimization subscales; D PMWI Dom = Dad report PMWI Dominance Perpetration and Victimization subscales; M & D Phys Agg = Mom and Dad report of physical aggression; M FMM Phys = Mom report FMM Physical Aggression Perpetration and Victimization subscales; D FMM Phys = Dad report FMM Physical Aggression Perpetration and Victimization subscales; C Report IPC = Child report of interparental conflict; C BPI Intensity = Child report Berkeley Puppet Interview (BPI) Intensity of Interparental Conflict scale; C BPI Involve = Child report BPI Involvement in Interparental Conflict scale; C BPI Resolut = Child report BPI Resolution of Interparental Conflict scale; Positive Parenting Time 1 = Positivity of maternal and paternal parenting behaviors at Time 1; Observed parenting = Observational coding of the Parent-Child Interaction (PCI) task, involving the child and his/her primary caregiver (most commonly his/her mother); O PCI Warmth = Observed PCI Global Warmth scale; O PCI Resp = Observed PCI Global Responsiveness scale; C Mom's Parenting = Child report of Mom's parenting; C BPI M Warmth = Child report BPI Maternal Warmth scale; C BPI M Resp = Child report BPI Maternal Responsiveness scale; C BPI M Anger = Child report BPI Maternal Anger/Hostility scale; C Dad's Parenting = Child report of Dad's parenting; C BPI D Warmth = Child report BPI Paternal Warmth scale; C BPI D Resp = Child report BPI Paternal Responsiveness scale; C BPI D Anger = Child report BPI Paternal Anger/Hostility scale; Child Social Information Processing Time 2 = Hostility of child's report on the Social Information Processing Measure at Time 2; C Attribut = Negativity of child's self-reported attributions about peers' motives (hostile attribution bias); C Beh Res = Aggressiveness of child's self-reported behavioral responses to peers; Child Social Competence Time 2 = Child social competence at Time 2; C Report Competence = Child self-report social competence; C BPI Peer Acc = Child report BPI Peer Acceptance scale; C BPI Rel Agg = Child report BPI Relational Aggression scale; C BPI Hostility = Child report BPI Overt Hostility scale; Mom Report Competence = Mom Report of Child Social Competence; M HBQ Peer Acc = Mom Report Health and Behavior Questionnaire (HBQ) Peer Acceptance scale, M HBQ Rel Agg = Mom Report HBQ Relational Aggression scale, M HBQ Hostility = Mom Report HBQ Overt Hostility scale; Dad Report Competence = Dad Report of Child Social Competence; D HBQ Peer Acc = Dad Report HBQ Peer Acceptance scale, D HBQ Rel Agg = Dad Report HBQ Relational Aggression scale, D HBQ Hostility = Dad Report HBQ Overt Hostility scale.
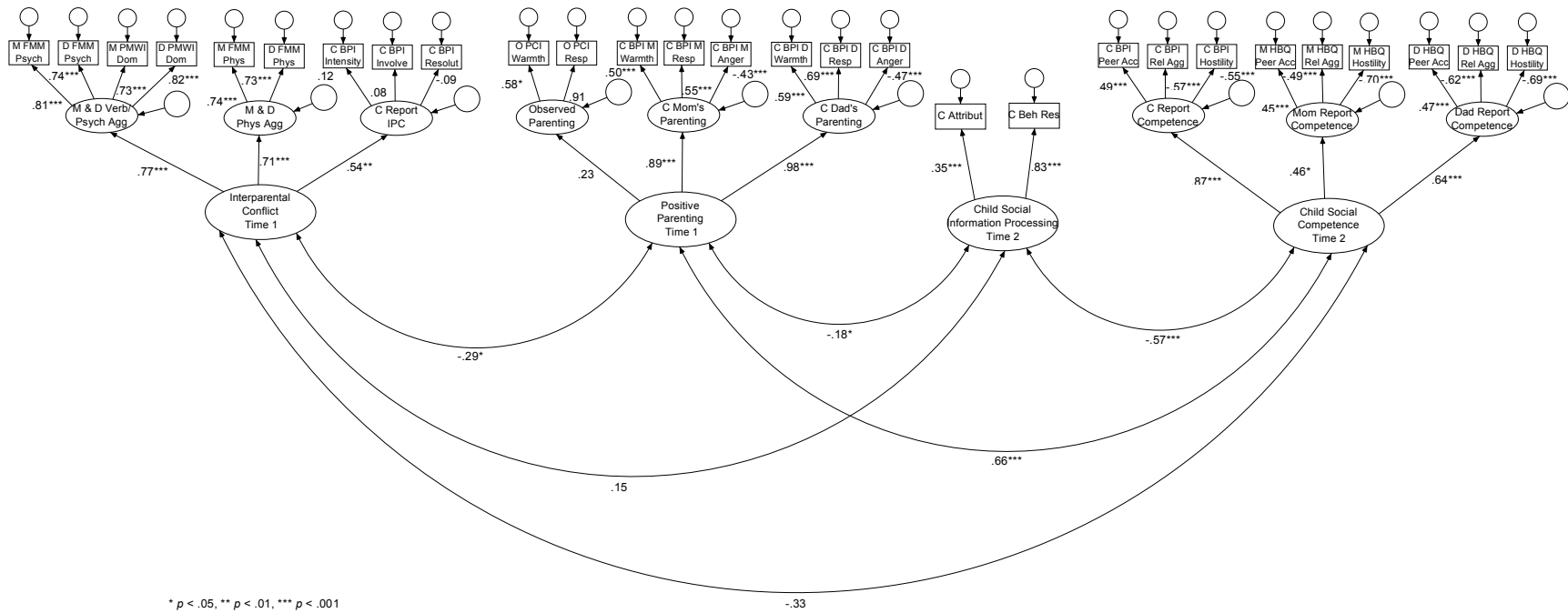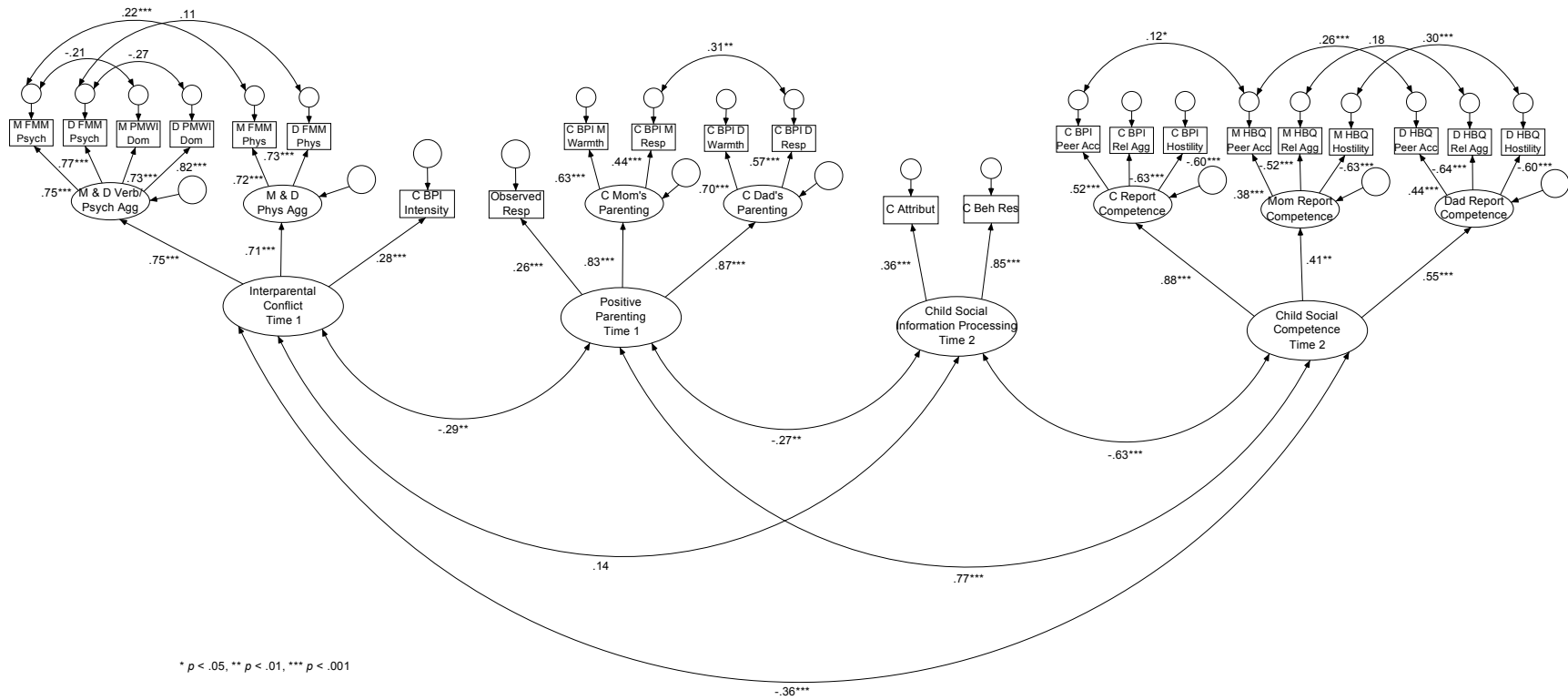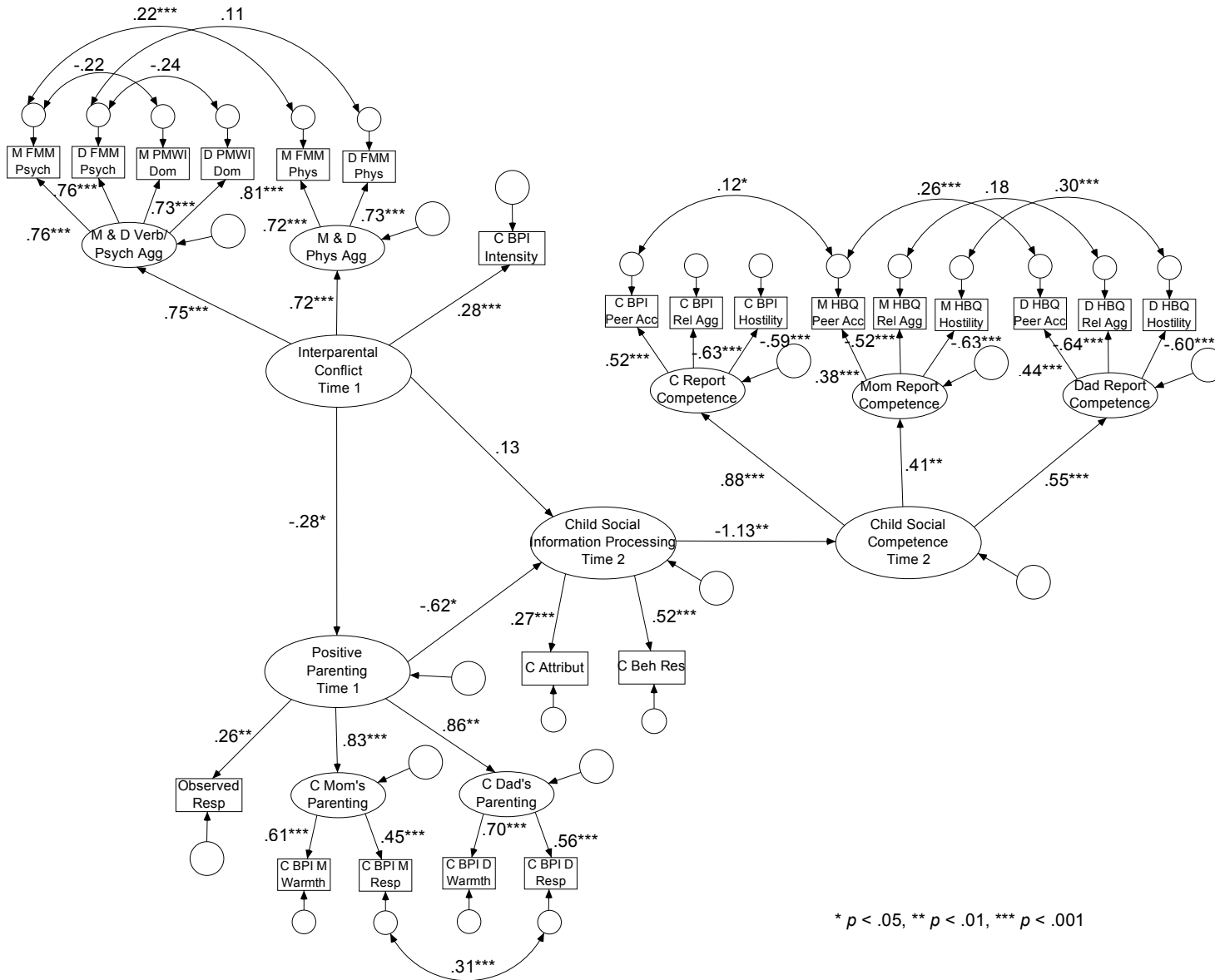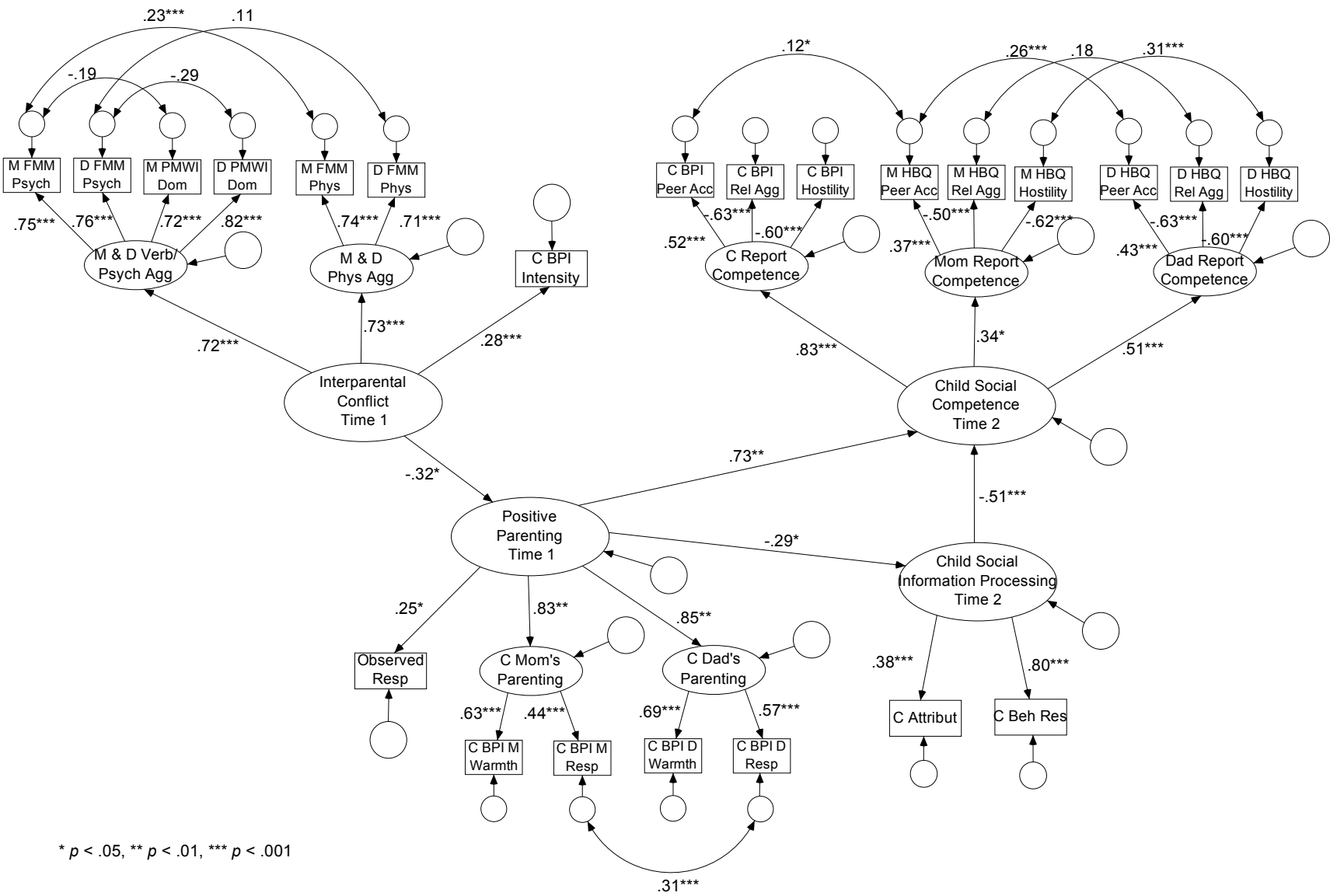
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* *p* < .05, ** *p* < .01, *** *p* < .001

42

Figure 3. The final measurement model of the relations between interparental conflict at Time 1, parenting at Time 1, children's social information processing at Time 2, and children's social competence at Time 2. Interparental Conflict Time 1 = Negativity/intensity of interparental conflict at Time 1; M & D Verb/Psych Agg = Mom and Dad report of verbal/psychological aggression; M FMM Psych = Mom report Family Maltreatment Measure (FMM) Verbal/Psychological Aggression Perpetration and Victimization subscales; D FMM Psych = Dad report FMM Verbal/Psychological Aggression Perpetration and Victimization subscales; M PMWI Dom = Mom report Psychological Maltreatment of Women Inventory (PMWI) Dominance Perpetration and Victimization subscales; D PMWI Dom = Dad report PMWI Dominance Perpetration and Victimization subscales; M & D Phys Agg = Mom and Dad report of physical aggression; M FMM Phys = Mom report FMM Physical Aggression Perpetration and Victimization subscales; D FMM Phys = Dad report FMM Physical Aggression Perpetration and Victimization subscales; C BPI Intensity = Child report Berkeley Puppet Interview (BPI) Intensity of Interparental Conflict scale; Positive Parenting Time 1 = Positivity of maternal and paternal parenting behaviors at Time 1; Observed Resp = Observationally coded Global Responsiveness scale of the Parent-Child Interaction (PCI) task, involving the child and his/her primary caregiver (most commonly his/her mother); C Mom's Parenting = Child report of Mom's parenting; C BPI M Warmth = Child report BPI Maternal Warmth scale; C BPI M Resp = Child report BPI Maternal Responsiveness scale; C Dad's Parenting = Child report of Dad's parenting; C BPI D Warmth = Child report BPI Paternal Warmth scale; C BPI D Resp = Child report BPI Paternal Responsiveness scale; Child Social Information Processing Time 2 = Hostility of child's report on the Social Information Processing Measure at Time 2; C Attribut = Negativity of child's self-reported attributions about peers' motives (hostile attribution bias); C Beh Res = Aggressiveness of child's self-reported behavioral responses to peers; Child Social Competence Time 2 = Child social competence at Time 2; C Report Competence = Child self-report social competence; C BPI Peer Acc = Child report BPI Peer Acceptance scale; C BPI Rel Agg = Child report BPI Relational Aggression scale; C BPI Hostility = Child report BPI Overt Hostility scale; Mom Report Competence = Mom Report of Child Social Competence; M HBQ Peer Acc = Mom Report Health and Behavior Questionnaire (HBQ) Peer Acceptance scale, M HBQ Rel Agg = Mom Report HBQ Relational Aggression scale, M HBQ Hostility = Mom Report HBQ Overt Hostility scale; Dad Report Competence = Dad Report of Child Social Competence; D HBQ Peer Acc = Dad Report HBQ Peer Acceptance scale, D HBQ Rel Agg = Dad Report HBQ Relational Aggression scale, D HBQ Hostility = Dad Report HBQ Overt Hostility scale.

.22*** .11
-.22 -.24

M FMM Psych | D FMM Psych | M PMWI Dom | D PMWI Dom | M FMM Phys | D FMM Phys

.76*** .73***
.76*** .81*** .72*** .73***

M & D Verb/ Psych Agg
M & D Phys Agg
C BPI Intensity

.75*** .72*** .28***

Interparental Conflict Time 1

.13

-.28*

.12* .26*** .18 .30***

C BPI Peer Acc | C BPI Rel Agg | C BPI Hostility | M HBQ Peer Acc | M HBQ Rel Agg | M HBQ Hostility | D HBQ Peer Acc | D HBQ Rel Agg | D HBQ Hostility

.52*** -.63*** -.59*** -.52*** -.63*** -.64*** -.60***
.38*** .44***

C Report Competence
Mom Report Competence
Dad Report Competence

.88*** .41** .55***

Child Social Information Processing Time 2
-1.13**
Child Social Competence Time 2

-.62*

.27*** .52***

C Attribut | C Beh Res

Positive Parenting Time 1

.26** .83*** .86**

Observed Resp

C Mom's Parenting
C Dad's Parenting

.61*** .45*** .70*** .56***

C BPI M Warmth | C BPI M Resp | C BPI D Warmth | C BPI D Resp

.31***

p < .05, **p* < .01, ***p* < .001

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Figure 4. The hypothesized structural model of the effects of children's home environments at Time 1 (i.e., interparental conflict, parenting) on their social competence at Time 2, as mediated by social information processing (adjusted to incorporate the final measurement model from Figure 3). Interparental Conflict Time 1 = Negativity/intensity of interparental conflict at Time 1; M & D Verb/Psych Agg = Mom and Dad report of verbal/psychological aggression; M FMM Psych = Mom report Family Maltreatment Measure (FMM) Verbal/Psychological Aggression Perpetration and Victimization subscales; D FMM Psych = Dad report FMM Verbal/Psychological Aggression Perpetration and Victimization subscales; M PMWI Dom = Mom report Psychological Maltreatment of Women Inventory (PMWI) Dominance Perpetration and Victimization subscales; D PMWI Dom = Dad report PMWI Dominance Perpetration and Victimization subscales; M & D Phys Agg = Mom and Dad report of physical aggression; M FMM Phys = Mom report FMM Physical Aggression Perpetration and Victimization subscales; D FMM Phys = Dad report FMM Physical Aggression Perpetration and Victimization subscales; C BPI Intensity = Child report Berkeley Puppet Interview (BPI) Intensity of Interparental Conflict scale; Positive Parenting Time 1 = Positivity of maternal and paternal parenting behaviors at Time 1; Observed Resp = Observationally coded Global Responsiveness scale of the Parent-Child Interaction (PCI) task, involving the child and his/her primary caregiver (most commonly his/her mother); C Mom's Parenting = Child report of Mom's parenting; C BPI M Warmth = Child report BPI Maternal Warmth scale; C BPI M Resp = Child report BPI Maternal Responsiveness scale; C Dad's Parenting = Child report of Dad's parenting; C BPI D Warmth = Child report BPI Paternal Warmth scale; C BPI D Resp = Child report BPI Paternal Responsiveness scale; Child Social Information Processing Time 2 = Hostility of child's report on the Social Information Processing Measure at Time 2; C Attribut = Negativity of child's self-reported attributions about peers' motives (hostile attribution bias); C Beh Res = Aggressiveness of child's self-reported behavioral responses to peers; Child Social Competence Time 2 = Child social competence at Time 2; C Report Competence = Child self-report social competence; C BPI Peer Acc = Child report BPI Peer Acceptance scale; C BPI Rel Agg = Child report BPI Relational Aggression scale; C BPI Hostility = Child report BPI Overt Hostility scale; Mom Report Competence = Mom Report of Child Social Competence; M HBQ Peer Acc = Mom Report Health and Behavior Questionnaire (HBQ) Peer Acceptance scale, M HBQ Rel Agg = Mom Report HBQ Relational Aggression scale, M HBQ Hostility = Mom Report HBQ Overt Hostility scale; Dad Report Competence = Dad Report of Child Social Competence; D HBQ Peer Acc = Dad Report HBQ Peer Acceptance scale, D HBQ Rel Agg = Dad Report HBQ Relational Aggression scale, D HBQ Hostility = Dad Report HBQ Overt Hostility scale.

Figure 5. The final structural model of the effects of children's home environments at Time 1 (i.e., interparental conflict, parenting) on their social competence at Time 2, as mediated by social information processing. Interparental Conflict Time 1 = Negativity/intensity of interparental conflict at Time 1; M & D Verb/Psych Agg = Mom and Dad report of verbal/psychological aggression; M FMM Psych = Mom report Family Maltreatment Measure (FMM) Verbal/Psychological Aggression Perpetration and Victimization subscales; D FMM Psych = Dad report FMM Verbal/Psychological Aggression Perpetration and Victimization subscales; M PMWI Dom = Mom report Psychological Maltreatment of Women Inventory (PMWI) Dominance Perpetration and Victimization subscales; D PMWI Dom = Dad report PMWI Dominance Perpetration and Victimization subscales; M & D Phys Agg = Mom and Dad report of physical aggression; M FMM Phys = Mom report FMM Physical Aggression Perpetration and Victimization subscales; D FMM Phys = Dad report FMM Physical Aggression Perpetration and Victimization subscales; C BPI Intensity = Child report Berkeley Puppet Interview (BPI) Intensity of Interparental Conflict scale; Positive Parenting Time 1 = Positivity of maternal and paternal parenting behaviors at Time 1; Observed Resp = Observationally coded Global Responsiveness scale of the Parent-Child Interaction (PCI) task, involving the child and his/her primary caregiver (most commonly his/her mother); C Mom's Parenting = Child report of Mom's parenting; C BPI M Warmth = Child report BPI Maternal Warmth scale; C BPI M Resp = Child report BPI Maternal Responsiveness scale; C Dad's Parenting = Child report of Dad's parenting; C BPI D Warmth = Child report BPI Paternal Warmth scale; C BPI D Resp = Child report BPI Paternal Responsiveness scale; Child Social Information Processing Time 2 = Hostility of child's report on the Social Information Processing Measure at Time 2; C Attribut = Negativity of child's self-reported attributions about peers' motives (hostile attribution bias); C Beh Res = Aggressiveness of child's self-reported behavioral responses to peers; Child Social Competence Time 2 = Child social competence at Time 2; C Report Competence = Child self-report social competence; C BPI Peer Acc = Child report BPI Peer Acceptance scale; C BPI Rel Agg = Child report BPI Relational Aggression scale; C BPI Hostility = Child report BPI Overt Hostility scale; Mom Report Competence = Mom Report of Child Social Competence; M HBQ Peer Acc = Mom Report Health and Behavior Questionnaire (HBQ) Peer Acceptance scale, M HBQ Rel Agg = Mom Report HBQ Relational Aggression scale, M HBQ Hostility = Mom Report HBQ Overt Hostility scale; Dad Report Competence = Dad Report of Child Social Competence; D HBQ Peer Acc = Dad Report HBQ Peer Acceptance scale, D HBQ Rel Agg = Dad Report HBQ Relational Aggression scale, D HBQ Hostility = Dad Report HBQ Overt Hostility scale.

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