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Family Violence and Children's Behavior Problems: Independent Contributions of Intimate Partner and Child-Directed Physical Aggression

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Abstract

Using data from a diverse sample of 581 families living in predominantly low-income, rural communities, the current study sought to investigate the longitudinal associations among father-perpetrated intimate partner violence (IPV) and child-directed physical aggression perpetrated by the mother. The unique contributions of each of these types of family violence on children's behavioral problems at school entry were also examined. Results confirm bidirectional associations between father-perpetrated IPV and maternal physical aggression directed toward the child, and indicate that both types of physical aggression contribute to child behavior problems at school entry.

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¹In posthoc analyses, we investigated whether the sex of the child moderated any of the relations presented in the current study. Results from moderation analyses as well as from two group analyses (where separate models were estimated for boys and girls) revealed no such differences.

²Although the focus of the current study was on maternal child-directed physical aggression and father-perpetrated IPV (for the reasons outlined on page 8), during supplemental analyses we also investigated the role of mother-perpetrated IPV and father-perpetrated child-directed physical aggression in this model. Specifically, bidirectional paths between all four types of family violence were estimated, in addition to direct paths from all four types of family violence to the children's behavioral problem latent variable. Contrary to expectation, when considered in a model with father-perpetrated IPV and mother-perpetrated child-directed physical aggression, we found that (in this sample, at this child age, and with this child outcome) these other two types of family violence were not related to any of the variables presented in the current manuscript. We suspect that these lack of findings are likely due to multicollinearity among the different types of family violence, however future research should more fully explore this suggestion.

Keywords

intimate partner violence; child directed physical aggression; child behavior problems

The impact of intimate partner violence (IPV) on family functioning is a topic that has garnered substantial attention in recent decades. Exposure to IPV has been linked with a variety of negative outcomes for children, including deficits in social competence and emotional and behavioral problems (Kitzmann, Gaylord, Holt, & Kenny, 2003; Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003). In terms of impact, research suggests that children living in domestically violent homes are at increased risk for being victims of physical aggression themselves (Appel & Holden, 1998; Edleson, 1999), the experience of which has been linked with similar maladaptive outcomes (Gershoff, 2002; Keiley, Howe, Dodge, Bates, & Pettit, 2001). Despite mounting evidence that both of these types of family violence negatively impact children's behavioral functioning, little research to date has simultaneously considered the impact of both IPV and child-directed physical aggression on child functioning, or the associations between these two types of family violence over time (Anderson, 2010; Tolan, Gorman-Smith, & Henry, 2006). The current study sought to address this gap, by investigating the longitudinal linkages between IPV and physical aggression directed toward the child, in addition to their relative influence on child behavioral functioning at school entry.

Family Violence and Child Behavioral Outcomes

An estimated 15.5 million children in the United States live in domestically violent homes (McDonald, Jouriles, Ramisetty-Mikler, Caetano, & Green, 2006). Research investigating the impact of domestic violence on families has consistently linked IPV with problematic child outcomes, with particular attention having been paid to children's behavioral functioning. In their meta-analysis of 118 studies of the psychosocial outcomes of children exposed to IPV, Kitzmann and colleagues (2003) found that exposure to IPV was associated with more internalizing and externalizing problems in children of all ages. Although less is known about the impact of IPV on young children, there is some evidence that IPV can compromise the behavioral functioning of this understudied group of children who are at risk (e.g., Levendosky, Leahy, Bogat, Davidson, & von Eye, 2006). For example, Jaffe and colleagues (2002), using a sample of 1,116 pairs of monozygotic and dizygotic twins, found that, even after accounting for genetic and environmental effects, living in a domestically violent home was associated with both internalizing and externalizing problems when children were 5-years-old. Similarly, Litrownick and colleagues (2003), in their multisite prospective study of 682 children, found that exposure to domestic violence at age 4 was related to increases in children's aggressive behavior at age 6. Given the large number of children exposed to IPV each year, the potentially destructive influence of IPV on young children, and the importance of children's early behavior functioning for a successful transition to school (Rimm-Kaufman, Pianta, & Cox, 2000), it is important to investigate family-level factors that might undermine children's adaptive behavioral functioning during this time.

Past empirical and theoretical work suggests that not only is IPV distressing and dysregulating for children, but also that violence among parents can interfere with adaptive parenting practices. According to the *spillover hypothesis*, stress and anger produced in the adult-adult relationship can carry over into the parent-child relationship, and disturbances in the parent-child relationship partially account for the influence of IPV on child outcomes (Cox & Paley, 1997; Krishnakumar & Buehler, 2000). Consistent with this idea, recent work suggests that there is substantial co-occurrence of IPV and child abuse (Jouriles et al., 2008; Knickerbocker, Heyman, Slep, Jouriles, & McDonald, 2007), such that many children living in physically violent homes are also being physically abused themselves (Holt, Buckley, & Whelen, 2008). Although the focus of the current study is on child-directed physical aggression (versus abusive parenting behaviors), less severe forms of physical aggression, including spanking and corporal punishment, also have been associated with children's behavior problems (Berlin et al., 2009; Gershoff, 2002; McLoyd & Smith, 2002; Straus & Stewart, 1999). For example, in her meta-analysis of 88 studies that examined the effects of corporal punishment on children's behaviors and experiences, Gershoff (2002) found that corporal punishment was associated with 11 dimensions of children's short- and long-term functioning, including increased aggression and mental health problems. Despite recognition that IPV and child-directed physical aggression cooccur and can each have substantial negative effects on children's development, few studies to date have simultaneously considered the influence of both of these types of family violence on child outcomes, or their bidirectional associations over time (Levendosky, Bogat, & von Eye, 2007; Slep & O'Leary, 2001).

Bidirectional Associations Between IPV and Child-Directed Physical Aggression

Although most of the extant literature examining parenting in the context of IPV has focused on the unidirectional effect of IPV on parenting (or *vice versa*), there is reason to believe that this association is bidirectional. Several authors (e.g., Anderson, 2010; Slep & O'Leary, 2001) have discussed a number of ways in which both of these types of physical aggression may contribute to one another over time. For example, not only can IPV deplete a parent's ability to respond sensitively to the difficulties of childrearing, but also disagreements over parenting practices can contribute to subsequent IPV. Alternatively, parents may use physically aggressive behavior to control their child as a means of keeping the child's behavior from angering their abusive partner. Despite recognition of the complexity of these relations, few studies have simultaneously considered multiple types of family violence, and even fewer have tested whether there are longitudinal, bidirectional relations among these variables.

Although there is general consensus that both of these types of physical aggression influence children's behavioral functioning, the extant literature has yielded inconsistent findings about their relative influence on children's outcomes. Some researchers, for example, have found that child-directed physical aggression was a more potent predictor of children's adjustment than IPV (e.g., Levendosky & Graham-Bermann, 2001), whereas others have found that domestic violence was the more potent predictor (e.g., Sternberg et al., 1993). In

their meta-analysis of the psychosocial outcomes of children exposed to interparental violence, Kitmann and colleagues (2003) did not find evidence that children exposed to both IPV and physical abuse showed significantly worse outcomes than those only exposed to IPV. However, Wolfe and colleagues (2003), also using meta-analytic techniques to investigate the effects of domestic violence on children's developmental outcomes, found that children who were exposed to both types of family violence had more emotional and behavioral problems, when compared to children who were only exposed to IPV. Given the inconsistent nature of this literature, the current study sought to explore whether IPV and child-directed physical aggression had unique influences on children's behavioral functioning, and whether or not one form of physical aggression had a larger impact on children's behavior problems at school entry.

The Current Study

Using data from an ethnically and economically diverse sample of families living in low-income rural communities, the current study sought to investigate the longitudinal associations between father-perpetrated IPV and mother-perpetrated child-directed physical aggression, in addition to their relative influences on child behavior problems at school entry. The current study focused on mother-perpetrated child-directed physical aggression and father-perpetrated IPV for a number of reasons. During early childhood, mothers typically spend more time caring for their children relative to fathers (Hofferth, Stueve, Pleck, Bianchi, & Sayer, 2002; Pleck & Masciadrelli, 2004), and thus, their parenting behaviors play a critical role in the behavioral development of their children. As such, it seems particularly important to investigate the influence of mothering on children's behavioral functioning, in addition to factors that may impact these mothering behaviors. The climate of the mother's intimate relationship, including the amount of IPV that her partner directs toward her, is one such factor.

Guided by family systems theory (Cox & Paley, 1997; 2003), which asserts that each family relationship (e.g., the parent-child relationship) is embedded in a network of other family relationships (e.g., the marital relationship), and that the functioning and development of any system within the family cannot be properly understood without considering the interdependence or the dynamic interplay between the multiple relationships in the family, the goal of the current study was to investigate the following: (a) *Are there bidirectional associations between IPV and child-directed physical aggression?* We hypothesized that higher levels of father-perpetrated IPV assessed when the child was 36-months-old would be associated with increases in maternal physical aggression directed toward the child at 60 months of age, and that higher levels of maternal physical aggression directed toward the child at 36 months of age would be associated with increases in father-perpetrated IPV assessed when the child was 60 months old. (b) *Do these two types of family violence contribute to children's behavioral problems at school entry?* We hypothesized that both types of violence would contribute to children's behavior problems; however, due to the inconsistency of findings in the extant literature, no hypotheses were made about the relative influence of these types of physical aggression.

It is important to note that the current study was limited to only two types of physical aggression that may be occurring in homes with young children. As the goal of the current study was to empirically investigate whether there were bidirectional relations between multiple types of family violence (and not necessarily to characterize the relations among all types of family violence), we chose to focus on two types of family violence that may be particularly salient for families with young children. We selected maternal child-directed physical aggression, both because mothers are typically the primary caregivers of young children (making their parenting behaviors particularly important for children's development; Hofferth, Stueve, Pleck, Bianchi, & Sayer, 2002; Pleck & Masciadrelli, 2004), and because there is a large literature demonstrating that maternal parenting behaviors impact children's behavioral development (Baumrind, 1993; Campbell, 1995; Maccoby & Martin, 1983). For the second type of family violence, we were interested in examining a form of family violence that may be an important contributor to maternal child-directed physical aggression. We, therefore, selected father-perpetrated IPV, largely because the vast majority of literature linking IPV and maternal parenting behaviors has focused exclusively on father-perpetrated IPV (e.g., Huang, Wang, & Warrener, 2010; Levendosky & Graham-Bermann, 2001; Levendosky, Huth-Bocks, Shapiro, & Semel, 2003). Because these are only two of the many types of family violence that may be occurring in families with young children, the reader is reminded that this investigation is purely meant as an empirical exploration of whether different forms of family violence impact one another over time (a research question that, thus far, has been underexplored in the family violence literature), and that the results should be interpreted cautiously, as a more holistic approach to examining the interrelations between various types of family violence might yield different results.

Method

Participants

The participants in this study were a subsample of The Family Life Project, an ongoing longitudinal study of 1,292 families living in predominantly low-income, nonmetropolitan communities in eastern North Carolina and central Pennsylvania. Families were recruited in local hospitals shortly after the birth of the target child, and were visited in their home beginning when the child was 2-months-old. African American and low-income families were oversampled. See Burchinal, Vernon-Feagans, Cox, and the Family Life Project Investigators (2008) for additional information about the recruitment and sampling procedures.

Our subsample consisted of families in which the child lived with their biological mother and her cohabitating partner when they were 36-months-old and remained living with this same dyad at the 60-month assessment ($n = 581$). Restricting our subsample to only couples who remained in the same relationship over this time resulted in the exclusion of 75 couples, 16 because the mother was no longer the child's primary caregiver at the 60-month assessment, 32 because the mother had changed romantic partners by the 60-month assessment, and 27 because the mother was no longer in a romantic relationship. Mothers with transient or non-residential partners were not included in these analyses because the

authors believed that violence in these types of relationships would differentially impact children's behavioral functioning, when compared to family violence occurring in more stable, co-residential relationships.

Of these 581 children, 289 (50%) were male and 134 (23%) were African American. Five-hundred and sixty (96%) of the mothers' partners were the biological fathers of the target child, and 495 (85%) of the parents were married at the 36-month timepoint. The average annual household income for this subsample was \$54,314 (with a range from \$0 to \$263,502).

Procedure

When the child was 36- and 60-months-old, two research assistants visited families in their homes, where they administered interviews and questionnaires to mothers via laptop computer. When the target child was enrolled in kindergarten, the child's teacher completed questionnaires via a secure online survey site.

Measures

Intimate partner violence—IPV was assessed using the Conflict Tactics Scale – Couple Form R (CTS-R; Straus & Gelles, 1990), a 19-item self-report measure completed by the mothers when their child was 36- and 60-months-old. Each of these items lists a possible response to conflict in the romantic relationship; respondents were asked to rate how often in the past 12 months their partner engaged in specific behaviors (where 0 = *never* and 6 = *more than 20*). The 9-item Physical Violence subscale of this measure (which is computed by taking the mean of these items; $\alpha = .67$ and $\alpha = .75$ for our subsample at the 36- and 60-month assessments, respectively) was used in the current study. A sample item reads “[how often has your partner] kicked, bit, or hit you with a fist.” Fourteen percent of mothers in our subsample reported at least one instance of father-perpetrated violence in the previous year. This figure is consistent with those found by the National Family Violence Survey, which reported that 10% to 12% of couples experienced at least one instance of IPV in the previous year (Straus & Gelles, 1990).

Child-directed physical aggression—Child-directed physical aggression was measured using a modified version of the parent-child Conflict Tactics Scale (CTSPC; Straus, 1979). When their child was 36- and 60-months-old, mothers completed this 20-item questionnaire, reporting how often in the past year they manifested the particular behavior in response to a conflict with their child (where 0 = *never* and 6 = *almost every day*). Only the 4-item physical aggression subscale ($\alpha = .52$ and $\alpha = .50$ for our subsample at the 36-month and 60-month assessments, respectively) was used in the current study. An example item reads “[how often have you] hit or tried to hit the child with something?” Thirty percent of mothers reported that they had committed at least one act of physical aggression when interacting with the child in the previous year.

Child problem behaviors—Children's problem behaviors were assessed using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001), a 25-item behavioral screening questionnaire designed to assess the psychological adjustment of children. When

their child was 60-months-old, mothers were presented with a list of statements, and asked to rate how true that statement was of the target child's behavior over the last six months (where 0 = *not true* and 2 = *certainly true*). The emotional symptoms, conduct problems, hyperactivity, and peer problems subscales were averaged to create a total problem behaviors score. Example items are as follows: "[the target child is] Often unhappy, downhearted, or tearful" (emotional symptoms subscale), "Often fights with other children or bullies them" (conduct problems subscale), "Restless, overactive, cannot stay still for long." (hyperactivity subscale), and "Picked on or bullied by other children" (peer problems subscale). When the child was in kindergarten, teachers completed the same version of the SDQ, and his or her scores were composited in the same way. The mother's report of the child's total problem behaviors ($\alpha = .72$) and the kindergarten teacher's report of the child's total problem behaviors ($\alpha = .85$) were used as indicators of the latent variable, problem behaviors, which captured children's behavior problems across the home and school contexts.

Covariates—At each visit, mothers reported information on a variety of household demographic variables, including the total household income from all possible sources, the number of individuals living in the home, the race (0 = *white*, 1 = *black*) and sex (0 = *female*, 1 = *male*) of the target child, the mother's highest level of completed education (in years), and the couple's marital status (0 = *unmarried*, 1 = *married*). Income-to-needs ratios were calculated at each assessment timepoint by dividing the total household income from all possible sources by the federally determined poverty threshold for the number of people living in the household for that year. Income-to-needs ratios above 1.0 indicate that a family is able to provide for basic needs, whereas values below 1.0 indicate that they are not. Because income-to-needs ratios showed stability over time ($r = .68, p < .01$), the family's income-to-needs ratio from the 36-month assessment was used as a covariate for all variables in the current analyses. In addition to each of these demographic variables, the data collection site (North Carolina versus Pennsylvania) was used as a covariate during model parameterization, in order to account for any possible differences in task administration across sites.

Analytic Strategy

Structural equation modeling (SEM) was used to test the proposed models. Models were parameterized using the *Mplus* 6.0 software package (Muthén & Muthén, 1998–2010), using the robust maximum likelihood estimator, which accommodates non-normal data by adjusting standard errors using the Huber-White sandwich estimator. Full information maximum likelihood (FIML) was used as the missing data technique (Arbuckle, 1996). Model fit was examined using a number of fit indices, including the comparative fit index (CFI; Bentler, 1990), the Tucker-Lewis index (TLI; Tucker & Lewis, 1973), and the root mean squared error of approximation (RMSEA; Browne & Cudeck, 1993). CFI and TLI values above .90 and RMSEA values below .05 indicate adequate model fit.

To test our hypotheses, model parameterization proceeded in a number of steps. First, autoregressive paths were estimated between the 36- and 60-month measurements of both types of family violence. That is, 60-month IPV was regressed on 36-month IPV and 60-month

child-directed physical aggression was regressed on 36-month child-directed physical aggression. Cross-lagged paths between the 36- and 60-month measurements were also estimated, such that the 60-month assessment of IPV was regressed on the 36-month assessment of child-directed physical aggression and the 60-month assessment of child-directed physical aggression was regressed on the 36-month assessment of IPV. Next, paths were also estimated from both 60-month IPV and 60-month child-directed physical aggression to the total problem behaviors latent variable. Last, paths were estimated between each of the control variables (i.e., the child's race and sex, the family's income-to-needs ratio, the couple's marital status, the mother's highest level of completed education, and the data collection site) to the 36-month and 60-month assessments of IPV, the 36-month and 60-month assessments of child-directed physical aggression, in addition to the total problem behaviors latent variable. Non-significant paths from the covariates were removed from the final model in order to preserve model parsimony.

Results

Descriptive Statistics

Table 1 presents the means, standard deviations, and bivariate correlations among study variables. The associations between the variables were largely as expected, such that higher levels of father-perpetrated IPV at both the 36- and 60-month assessments were associated with more mother-reported problem behaviors, in addition to more maternal physical aggression directed toward the child at the 60-month assessment. The association between father-perpetrated IPV and teacher-reported problem behaviors was not statistically significant; however, the correlations were in the proposed direction. Maternal physical aggression directed toward the child was positively associated with both mother and teacher reported problem behaviors at both timepoints, and to father-perpetrated IPV at the 60-month assessments.

Research Question One

Results from the final model are presented in Figure 1, in which all presented parameter estimates are standardized and only significant paths ($p < .05$) are depicted. This model fit the data well, $\chi^2(12, N = 581) = 21.58, p = .04, CFI = .95, TLI = .90, RMSEA = .04$, and accounted for 13% of the variance in children's problem behaviors. As predicted, even after controlling for the child's race and sex, the family's income-to-needs ratio, the couple's marital status, the mother's highest level of completed education, and the data collection site, father-perpetrated IPV at 36 months was associated with increases in maternal physical aggression toward the child at 60 months old ($\beta = .15, p < .05$). Maternal physical aggression directed toward the child at 36 months was also associated with increases in IPV at 60 months ($\beta = .22, p < .05$). Placing an equality constraint on these two paths did not result in a significant decrement to model fit ($\chi^2(1) = 2.69$), suggesting that these paths are not significantly different from one another in magnitude. Both father-perpetrated IPV and maternal physical aggression directed toward the child showed stability over time, as evidenced by significant path coefficients from the 36 month assessment of each construct and the 60-month assessment ($\beta = .40, p < .01$ for IPV and $\beta = .37, p < .01$ for child-directed physical aggression).

Research Question Two

Also consistent with expectation, even after entering all covariates, both types of family violence had independent effects on child behavior problems, such that both child-directed physical aggression ($\beta = .16, p < .05$) and IPV ($\beta = .14, p < .05$) at the 60 month assessment were associated with the child's behavior problems at school entry. Placing an equality constraint on these two paths did not result in a significant decrement to model fit ($\chi^2(1) = .30$), indicating that these two paths were not statistically significantly different from one another in magnitude.

Of the paths estimated from covariates, the following were statistically significant, and thus retained in the final model. The mother's highest level of completed education was negatively associated with the child's total problem behaviors ($\beta = -.28, p < .01$), such that mothers who had completed fewer years of education had children who were rated as exhibiting more problem behaviors. The child's race was positively associated with maternal physical aggression directed toward the child at 36 ($\beta = .24, p < .01$) and 60 months ($\beta = .16, p < .01$), such that African American mothers reported perpetrating more child-directed physical aggression relative to White mothers.

Discussion

Using data from a population-based sample of families living in rural communities, this study investigated the longitudinal associations between father-perpetrated IPV and maternal physical aggression directed toward the child, in addition to the relative influence of each of these types of family violence on children's behavioral functioning at school entry. Consistent with expectation, even after controlling for the child's race and sex, the family's income-to-needs ratio, the couple's marital status, the mother's highest level of completed education, and the data collection site, we found evidence for bidirectional relations between father-perpetrated IPV and maternal physical aggression directed toward the child, such that both types of family violence contributed to one another over time. Interestingly, the magnitude of these two paths were not statistically significantly different from one another, suggesting that in our sample and at this stage of child development, these two forms of physical aggression contribute equally to one another over time. These findings are consistent with theoretical and empirical work that suggests that the adult-adult and parent-child relationships are mutually influential (Cox & Paley, 1997), and underscores the importance of investigating their interrelations longitudinally.

Also supportive of our hypotheses, father-perpetrated IPV and maternal physical aggression directed toward the child had independent contributions to child behavior problems at school entry. Specifically, we found that even after controlling for the aforementioned covariates, father-perpetrated IPV and maternal physical aggression directed toward the child each predicted children's total behavior problems, as reported by both mothers and kindergarten teachers. Placing an equality constraint on these two paths did not result in a significant decrement to model fit, indicating that neither type of family violence emerged as a stronger predictor of children's behavioral problems in this population-based sample of families living in rural communities. These findings help qualify the inconsistent literature investigating the relative influence of IPV and child-directed physical aggression on child

outcomes, suggesting that both types of family violence have a unique negative impact on children's behavioral functioning at school entry. Taken together, the results of this study underscore the importance of considering, assessing, and targeting multiple forms of family violence, and suggest that clinicians and interventions aimed at improving the behavioral functioning of children living in physically aggressive homes should simultaneously target both father-perpetrated IPV and maternal physical aggression directed toward the child.

This study adds to the extant literature in a number of ways. Using data from an ethnically and economically diverse sample of families, this study provides insight into how family violence impacts children in an understudied, yet at risk, age group (Fantuzzo & Fusco, 2007). Although there are a growing number of studies that investigate family violence using community samples, less is known about these relationships in low-income, rural, population-based samples like the one used in the current study. Given that interparental conflict may be an even stronger predictor of family functioning when family stress is high (Cummings & Davies, 2010), understanding how these relationships operate in high-risk samples is an important contribution to the field. Given the dearth of literature investigating longitudinal linkages between multiple forms of family violence (Levendosky et al., 2007), the longitudinal design and the statistical modeling technique used in the current study also are of note, in that they allowed us to test bidirectional associations between IPV and child-directed physical aggression over time. The use of multiple informants of children's behavior problems constitutes an additional strength of this study. Although teachers may offer more objective reports of child behavior problems, mothers interact with their children in a wider range of contexts, some of which can afford them the opportunity to observe additional or more subtle problematic behaviors. Given that past research examining the correspondence of mother, teacher, and observer ratings of preschoolers' problem behaviors has shown that mothers' report of internalizing problems were more closely associated with observer ratings than were teacher ratings, and that teachers' ratings of externalizing problems were more closely associated with observer ratings than were mothers' rating (Hinshaw, Han, Erhardt, & Huber, 1992), using both reporters in this study was a strength.

Despite its contributions, this study also had a number of limitations, including the following. First, our study was limited to families living in low-income rural communities in which the child lived with the biological mother and the mother's co-residential partner at both the 36- and 60-month assessments. Future research should investigate these linkages in different populations, including families with more transient maternal romantic relationships, because physical violence perpetrated in these types of relationships may differentially impact children's behavioral functioning, relative to IPV perpetrated between parents who consistently live with the child. Second, although a strength of the current study is that it considered multiple forms of family violence, our investigation was nonetheless limited to two types of physical aggression that may be occurring in homes with small children. These two types of family violence (i.e., father-perpetrated IPV and mother-perpetrated child-directed physical aggression) were selected because they may be particularly salient for children's development at this age; however, the extent to which other types of family violence (including mother-perpetrated IPV and father-perpetrated child-directed physical aggression) interact to predict children's behavioral development also merits investigation². Third, although we measured the amount of IPV to which the

mother was exposed, we did not have a measure of how much IPV the child witnessed. Although past research suggests that the majority of children from violent homes directly witness violence (Fantuzzo & Fusco, 2007), future research should investigate whether these relations vary based on child exposure. Last, although we had multiple reporters of some of our study constructs, we relied exclusively on mothers' report of both her partner's IPV and her own child-directed physical aggression. Because women have been found to be more reliable reporters of physical aggression than men (Stets & Straus, 1989; Straus & Sweet, 1992), using maternal report in the current study seemed appropriate. Future research, however, should examine these relations using data from multiple informants.

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Biographies

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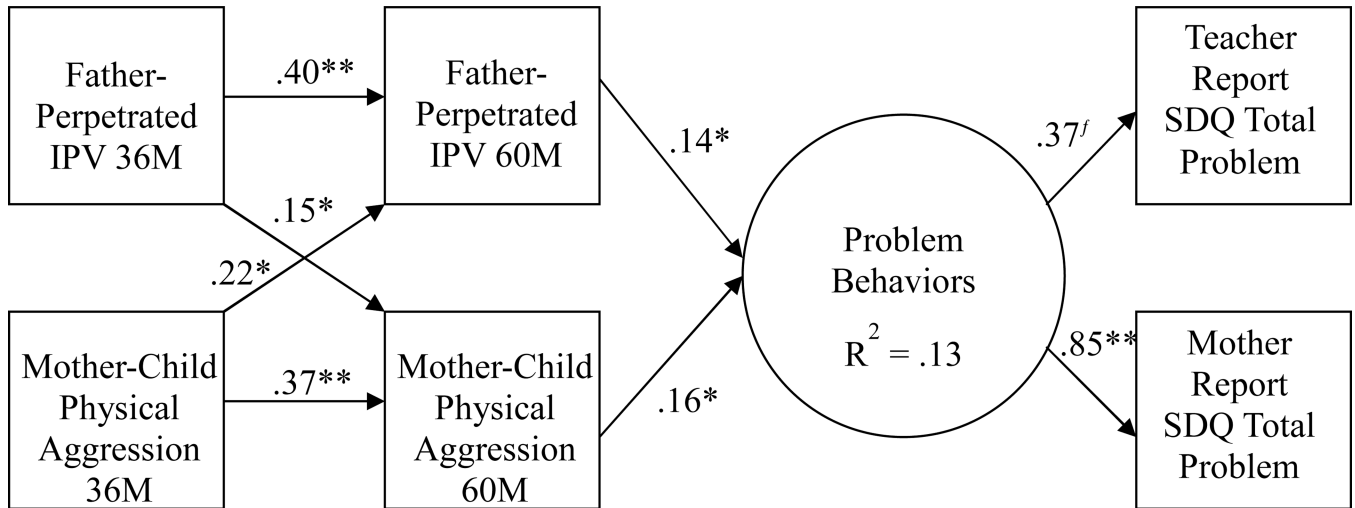


Figure 1. Final Model in which Father-Perpetrated IPV and Mother-Perpetrated Child-Directed Physical Aggression were used to Predict Children’s Behavior Problem
 Note: $\chi^2 (12, N = 581) = 21.58, p = .04, CFI = .95, TLI = .90, RMSEA = .04$. CFI = comparative fit index, TLI = Tucker-Lewis index, RMSEA = root mean squared error of approximation. $*p < .05, **p < .01$; all parameter estimates are standardized; f indicates a fixed estimate

Table 1
 Descriptive Statistics and Bivariate Correlations Among Study Variables (*n* = 581)

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Total Problem Behaviors -TR	--										
2. Total Problem Behaviors -MR	.31**	--									
3. 36m Father-Perpetrated IPV	.07	.15**	--								
4. 60m Father-Perpetrated IPV	.02	.16**	.41**	--							
5. 36m Mother-CPA	.15**	.07*	.03	.24**	--						
6. 60m Mother-CPA	.14**	.17**	.18**	.12**	.42**	--					
7. Income-to-Needs Ratio	-.08	-.18**	-.12**	-.08	-.09*	-.10*	--				
8. 36m Marital Status ^a	-.08	-.10**	-.09*	-.03	-.04	-.02	.20**	--			
9. Child Race ^b	.18**	.14**	.07	.12**	.24**	.27**	-.21**	-.09**	--		
10. Child Sex ^c	.16**	.08*	-.03	.02	.02	.00	.05	-.02	-.03	--	
11. Maternal Education	-.12*	-.26**	-.14**	-.08	-.07	-.10*	.52**	.28**	-.12**	.01	--
Mean (Standard Deviation)	.28(.26)	.42(.26)	.03(.14)	.03(.12)	.08(.32)	.09(.34)	2.47(1.67)	--	--	--	15.75(2.49)
Range	0-1.30	0-1.30	0-1.56	0-1.11	0-4.5	0-3	0-12.62	--	--	--	8-22

Note:

^a 0 = Unmarried 1 = Married;

^b 0 = White 1 = African American;

^c 0 = Female 1 = Male; TR = Teacher Report; MR = Mother Report; m = month; CPA = Child Physical Aggression

* *p* < .05

** *p* < .01