**Family Conflict Typology, Maternal Engagement, and Early Childhood Adjustment:**
**A Latent Class Analysis**

by

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## Abstract

Family conflict is a broad construct which can encompass violent and non-violent types of conflict. Problematic child outcomes have been associated with exposure to violent and nonviolent forms of inter-parental conflict, and research suggests infants and young children may be at heightened risk, though not all who witness family conflict will experience maladjustment. Theorized mechanisms of varying outcomes (e.g., through parenting practices) are unaligned, and previous related studies have ambiguously defined the construct of family conflict. The present study utilized latent class analysis to identify five family conflict typologies among a sample of unwed mothers of young children ($N$ = 1164). Using these typologies, a multigroup path analysis was employed to better understand how family conflict may differentially impact maternal child outcomes. Results suggest that maternal engagement may be a protective factor for children’s adjustment, but that mothers in conflictual families may struggle to engage their children in positive ways.

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List of Abbreviations

| | |
|---|---|
| IPV | Intimate partner violence |
| SES | Socioeconomic status |
| ACEs | Adverse childhood experiences |
| LCA | Latent class analysis |
| LPA | Latent profile analysis |
| BSF | Building Strong Families |
| CTS-2 | Revised Conflict Tactics Scale |
| PPM | Pearson product moment |
| BPI | Behavior Problems Index |
| CBCL | Child Behavior Checklist |
| CES-D | Center for Epidemiologic Studies Depression Scale |
| DC | Destructive conflict |
| LMR | Lo-Mendell-Rubin test |
| AIC | Akaike Information Criteria |
| BIC | Bayesian Information Criteria |
| AdjBIC | Sample-size-adjusted Bayesian Information Criteria |

**Family Conflict Typology, Maternal Engagement, and Early Childhood Adjustment: A Latent Class Analysis**

Intimate partner violence (IPV) is defined as "physical, sexual, or psychological violence between adults who [are] present and/or past sexual/intimate partners" (Thompson et al., 2006), and is a prevalent social and public health problem in the United States. It is estimated that between 25% and 54% of U.S. women report experiencing IPV in their lifetimes (Thompson et al., 2006), though this estimate is likely lower than the actual rate of victimization, as IPV commonly goes unreported (Rennison, 2003). Characteristics of women who are more likely to experience IPV are also characteristics which render them under-represented in academic research on the matter. Victims of IPV are more likely to be younger, single mothers, of ethnic minority, and of low SES (Hazen et al., 2004; Thompson et al., 2006) – all which provide significant barriers to participating in academic research studies. Mothers, specifically, are more likely than non-mothers to be abused by an intimate partner (Hazen et al., 2004), and witnessing IPV is a prevalent problem for children, too. Rennison (2003) reported that almost half of all incidents of IPV occurred in homes with a child under the age of twelve, and Carlson (2000) estimated that 10%-20% of children are exposed to IPV each year. This estimate, again, may be lower than the actual number of children who witness IPV due to underreporting.

Long-term physical and mental health consequences of exposure to early life adversity, including exposure to violence, have been continually supported in the literature (Felitti et al., 1998; Carr et al., 2013; Kessler et al., 2010; Mueller & Tronick, 2019; Reuben et al., 2016). Problematic physical, mental, and behavioral health outcomes have been associated with exposure to adverse childhood experiences (ACEs; Felitti et al., 1998). Exposure to adversity in childhood is correlated with later development of mental health illnesses (McLaughlin, Green et al., 2012), including depression, anxiety, aggression, suicide attempts and completions, and personality disorders (Turner et al., 2006). ACEs are also associated with a higher likelihood of engaging in impulsive and risky behaviors, such as alcohol and drug abuse, tobacco use, criminal activity, overeating/obesity, and unsafe sexual practices (Chartier et al., 2009; Goldstein et al., 2019), and ultimately with premature death (Aronson et al., 2020; Brown et al., 2009).

Although the long-term impacts of exposure to adversity in early life are well-documented, the effects of IPV on early childhood development are less prevalent in the literature. Younger children are actually more likely than older children and adolescents to witness domestic violence, and children under the age of 6-years are at the highest risk for exposure to IPV (Fantuzzo et al., 1997; Gjelsvik et al., 2003; Carpenter & Stacks, 2009). This is likely due to younger children spending more time in the home and with caregivers than older children because of school schedules and developmental need. Moreover, very few studies have examined the specific impacts of IPV on very young children (Mueller & Tronick, 2019). This gap in the literature is particularly problematic, because evidence suggests that infants and young children exposed to IPV are at heightened risk for psychopathology (Briggs-Gowan et al., 2019; Esterbrooks et al., 2018), and can be affected even more severely by exposure to IPV than older children (for review, see Carpenter & Stacks, 2009). There are several potential reasons why this may be true. First, infants and young children possess much greater physical and emotional dependence upon caregivers than older children (Cummings, 1981; Hughes 1988). The first year of life is a critical period for the development of secure attachment to caregivers, which is crucial for optimal infant development and prosocial outcomes (Belsky & Fearon, 2002; Bohlin et al., 2000; Carpenter & Stacks, 2009; Sroufe, 2000; Weinfeld et al., 1999). Destructive conflict, violence, and residual effects on parenting behavior and sensitivity may result in the infant developing an insecure attachment style (Ainsworth et al., 1978; Main & Solomon, 1990). Another reason why infants and young children may be more at-risk to IPV exposure than older children is due to greater brain malleability. Prolonged heightened levels of cortisol, epinephrine, and norepinephrine due to increased distress in response to IPV and less responsive parenting will have a much greater impact on the structure of an infant's or young child's brain than on that of an older child (Bevans et al., 2005; Carpenter & Stacks, 2009; Carlson, 2005; De Bellis & Thomas, 2003; Southwick et al., 2005).

Exposure to violent conflict between caregivers is a particular type of adversity for a child that may have far-reaching impacts on development, and may threaten infants' and young children's sense of security and wellbeing, which influences all aspects of development (Carpenter & Stacks, 2009; Pepler et al., 2000). Known adverse developmental outcomes of growing up in a violent home include increased aggression and externalizing problems and increased social withdrawal (see Evans et al., 2008; Kitzmann et al., 2003; Margolin & Gordis, 2000; Wolfe et al., 2003, for reviews). In addition to IPV, exposure to nonviolent destructive conflict (e.g., screaming, name-calling, undermining) between parents or parental figures in the home appears to have negative effects on children's socio-emotional development as well (Whiteside-Mansell et al., 2007). Exposure to destructive conflict in the home is upsetting to children and appears to elicit negative behavioral and emotional reactions. Children exposed to destructive forms of familial conflict often show emotional and behavioral maladjustment, particularly elevated anxiety, depression, aggressive and disruptive behavior problems, and strained relationships with siblings and peers (see Cummings & Davies, 1994; Erath & Bierman, 2006, for reviews).

However, not all infants and young children exposed to violence and conflict will exhibit maladaptive behaviors or other negative outcomes. Research suggests that there is substantial variability in the emotional outcomes of children exposed to conflict. Individual child characteristics such as temperament may buffer the risk associated with IPV exposure (Krishnakumar & Buehler, 2020; Martinez-Torteya et al., 2009; Sturge-Apple et al., 2014). Family contextual factors such as greater in-home support from extended family members and higher maternal educational attainment have also been found to offer protection to exposed children's development (Bowen, 2017; Fogarty et al., 2020; Miller et al., 2014). Another potentially more powerful explanation for the range in child outcomes is the degree to which family conflict impacts parenting behaviors and the parent-child relationship (Beardslee et al., 1998; De Wolff & van IJzendoorn, 1997; Edleson 1999; Holden 1998; Holden et al. 1998; Jaffe & Crooks 2005; Lamela et al., 2018; Letourneau et al. 2007; Levendosky & Graham-Bermann 2000, 2001; McKelvey et al., 2002; Paschall et al., 2017; Pilowsky et al., 2006). Paschall and colleagues (2017) found support for this, when they discovered that family conflict impacted both positive and negative behavioral transactions between mothers and children, such that greater conflict both diminished the association between maternal supportiveness and child behavior, and amplified the association between maternal negativity and child behavior.

There are contrasting ideas about how parenting and child outcomes are affected by family conflict, however, and this is an important mechanism to uncover if prevention and intervention efforts are to improve. Some researchers posit that mothers who are victims of domestic violence may actually be *more* sensitive and responsive to their children than mothers in nonabusive relationships (Ateah et al., 2016; Haight et al., 2007; Letourneau et al., 2007; Levendosky, 2003). Others argue that the negative psychological effects associated with family conflict (e.g., posttraumatic stress, depression) interfere with a woman's emotional resources and ability to meet children's needs, leading to emotional neglect and harsh punishment of children (Neppl et al., 2019; Malta et al., 2012; Ritchie & Holden, 1998; Stephenson & Renk, 2019). However, a mother's ability to maintain positive parenting behaviors and a positive parent-child relationship despite experiencing IPV and conflict may act as a protective factor for her child's socio-emotional development. In fact, much of the literature regarding children's exposure to domestic violence supports this theory, and suggests that the mother-child relationship may be an important determining factor in how children respond to conflict in the home, providing a potential avenue for intervention (Holden 1998; Holden et al. 1998; Edleson 1999; Levendosky & Graham-Bermann 2000, 2001; Jaffe & Crooks 2005; Lapierre, 2008; Letourneau et al. 2007).

Another potential protective factor for mothers and children who have experienced IPV and destructive family conflict is maternal mental health (Martinez-Torteya et al., 2009; Cohodes et al., 2017; Howell et al., 2010). Mothers who experience good mental health are likely better equipped to help their children to learn emotion regulation by responding empathetically to intense emotional responses (Howell et al., 2010). Unfortunately and understandably, maintaining good mental health and positive parenting practices is challenging for mothers experiencing abuse, and the negative impacts of IPV on a woman's mental health have been consistently supported in the literature. Survivors very often suffer from physical and mental health problems such as substance abuse, depression, suicidality, posttraumatic stress disorder, and anxiety disorders (Ellsberg et al., 2008; La Flair et al., 2012; Malta et al., 2012; McLaughlin, O'Carroll et al., 2012; Pico-Alfonso, 2005; Salom et al., 2015; Scheffer-Lindgren & Renck, 2008; Vizcarra et al., 2004). Research has also suggested that the type of victimization may differentially impact womens' adjustment, such that those who experience psychological abuse may have poorer mental health and well-being than those who experience physical abuse (Arias and Pape 1999; Dutton et al. 1999; Renner & Boel-Studt, 2013). Moreover, poor mental health related to experiences of IPV can interfere with a mother's abilities to engage in positive parenting behaviors. Graham-Bermann and Levendosky (1998) found a significant relationship between maternal IPV and parenting stress, which was further related to parenting and child outcomes. Furthermore, Ritchie and Holden (1998) found that victims of domestic violence who reported higher levels of maternal stress were observed to engage in less proactive monitoring of their children. More recent findings suggest children's exposure to IPV indirectly relates to maladjustment by way of maternal harsh parenting strategies (Graham et al., 2012). Additional findings indicate a mother's experience of IPV, specifically during her child's first year of life, negatively impacts morale and parenting behavior, including warmth and sensitivity to her child's needs (Levendosky & Graham-Bermann, 2000; Malta et al., 2012). Mothers' IPV experiences have been found to be significantly related to less positive and more punitive parenting behaviors (Stephenson & Renk, 2019). Several additional studies have also revealed poorer parenting behaviors, such as more hostility and less engagement, as a primary mechanism underlying the relationship between family conflict and child developmental outcomes (Greene et al., 2018; Levendosky et al., 2006; Gustafsson et al., 2012). It is important to emphasize, however, that challenges faced by mothers experiencing abuse are not examples of maternal "failures" or "deficiencies," as studies have also indicated significant improvement in mother-child interactions, maternal stress and mental health, and child behavior problems after the end of the abusive relationship (Holden et al., 1998; Lapierre, 2008).

One theoretical framework which may offer a well-rounded perspective from which to conceptualize how each of these family members – the child, the victim mother, and the perpetrator father – interact, and to approach the detanglement of these interactional family constructs, is family systems theory (Kerr & Bowen, 1988). Within the family systems theoretical perspective, family members are thought to be emotionally interdependent through their connectedness and reactivity to one another. Family systems theory holds that the experiences and functioning of one member will reciprocally affect all other members as well, and that behaviors of each family member result as reactions to the behaviors of other family members: a concept referred to as circular causality (Kerr & Bowen, 1988; Wallace, 2005; Murray, 2006). In the context of IPV, a family systems theoretical approach may posit that an abusive father's violent behaviors are influenced by past and present family relationship processes and experiences, which in turn influence the functioning of the other systems in the family, such as subsequent mother-child and father-child interactions, as well as that of other individuals in the family, such as the behavior of the child, and the mental and physical health of the mother.

Although family conflict is very prevalent in the U.S., families do not all experience conflict in the same way. Attempts to understand the diversity in family conflict have focused on the identification of types of violence or different classes of perpetrators/victims. Johnson (2008) identified three distinct types of IPV: intimate terrorism, which includes physical and/or sexual violence with a variety of non-violent control tactics such as economic and emotional abuse; violent resistance, which consists of reciprocal and defensive violence; and situational couple violence, which is the most common and the most variable in frequency, and is characterized by situationally-provoked physical aggression stemming from arguments. Regarding typologies of batterers, Holtzworth-Munroe and Stuart (1994) considered the severity, frequency, and generality of violence as well as the perpetrator's psychopathology and proposed the following three subtypes: the family-only batterer, classified by low severity, low generality, and low psychopathology; the borderline-dysphoric batterer, classified by moderate-high severity, low-moderate generality, borderline personality symptoms, and moderate substance abuse; and the generally violent-antisocial batterer, classified by moderate-high severity, high generality, antisocial personality symptoms, and high substance abuse. Latent class and latent profile analyses (LCA, LPA, respectively; Muthén & Muthén, 1998-2019), in particular, have more recently been utilized to try to better understand family conflict typology. Messing and colleagues (2016) utilized latent profile analysis to identify two distinct classes of batterers: severe and less severe IPV perpetrators. Sturge-Apple and colleagues (2014) utilized latent class analysis to examine differential relations between profiles of interpartner-parenting, sociocontextual predictors, and children's adjustment trajectories. Additional studies, such as those by Lin and colleagues (2016) and by Charak and Koot (2015), have utilized latent profile analysis to identify profiles of abuse victims based upon the frequency and/or severity of the abuse. At this time, however, no known studies have looked specifically at various patterns of violent *and* nonviolent conflict directed at mothers in the home, or how such patterns may differentially predict family and child outcomes. It is likely that exposure to high violence and high nonviolent conflict may affect mothers and children differently than exposure to little-to-no violent conflict but high destructive nonviolent conflict. In addition, the previously cited studies were limited in that they either utilized singular measures to identify family conflict or combined harsh parenting with family conflict, which may impact children differently. Furthermore, much of the literature in this area measures only violent conflict or non-violent conflict and refers to either as "family conflict." Assessing family conflict in this way leaves an important gap in the literature, as examining patterns of both violent and nonviolent family conflict and their association with parenting and child outcomes might offer a more realistic and generalizable view of family conflict, and might have different implications for programs and services than previously addressed.

The present study aimed to utilize latent class analysis, also known as mixture modeling, to explore potential groups of families based upon heterogeneous profiles of violent and nonviolent family conflict as reported by mothers. Latent class analysis is particularly useful in this case due to the likelihood of high correlation between nonviolent destructive conflict and IPV, and the likelihood of skewness in the IPV measure common in self-enrolled community samples. The number and makeup of these classes is uncertain, however it is likely that groups of high violence and conflict and low violence and conflict will appear. These classes were then used to test two hypotheses: *(1)* More conflict is associated with more behavior problems in young children and, *(2)* this relationship is mediated by maternal engagement with the child through play and positive interaction.

## Method

### The BSF Study

Data was derived from the Building Strong Families study (BSF; Wood, et al., 2012), a multi-site implementation evaluation of healthy marriage and relationship education programs offered to unwed parents in the United States. In order to be eligible for the BSF study, both members of the couple had to agree to participate, be at least 18-years old, and be primarily English- or Spanish-speaking. Additionally, the couple had to be romantically involved, and either expecting a baby or recently (within three months) had a baby together. As part of BSF eligibility determination, couples were screened for IPV. If the local BSF program found evidence of violence that could be aggravated by BSF participation, the couple was determined to be ineligible for BSF and was referred for other services. It is possible that this eligibility requirement restricted the range of reported IPV experiences, however it would be unethical not to screen out families for which the study might cause further harm. Data were collected from July 2005 through March, 2011 at eight sites located in Georgia, Maryland, Louisiana, Florida, Texas, Indiana, and Oklahoma. Data was collected from three sources: (1) a form completed by all parents when they applied to BSF, (2) a telephone survey conducted with mothers and fathers in the study about 15 months after they applied for the program, and (3) a telephone survey conducted with mothers and fathers in the study approximately 36 months after they applied for the program.

***Participants***

Although the BSF study was designed to evaluate the impact and implementation of relationship interventions, only families from the control group were utilized for the present study to eliminate the potential impact of course enrollment on conflict and parenting data. At baseline, 2,549 couples were randomly assigned into the control group and completed baseline surveys with 2,112 mothers and 1,838 fathers completing surveys at 15-month, and 1,984 mothers and 1,707 fathers at 36-month follow-up assessments. For the present study, participants were additionally excluded if mothers and fathers reported that they never live together ($n$ = 299) and if mothers reported living with their child less than "most of the time" at either the 15- or 36-month timepoints ($n$ = 39), and if eligibility status or scale scores for dependent variables could not be determined due to missingness ($n$ = 111). Participants included in the final sample were 1164 mothers (95.02% of eligible sample), who identified as 49.7% Black/African-American, 27.1% Hispanic, 19.3% White, and 4% Other/Biracial. Mothers' mean reported age was 23.31 (*SD* = 4.893) and fathers' was 25.53 (*SD* = 6.188). Couples' children were reported to be 49.9%

female, and 97.4% of participants reported that they were still in a romantic relationship with the child's father 15 months after baseline. Additionally, 55.7% of participants reported receiving welfare benefits in the last 12 months. Descriptive statistics and correlations are presented in *Table 1*.

## Measures

### *Intimate-Partner Violence*

The Physical Assault Subscale of the Revised Conflict Tactics Scales (CTS-2, Strauss et al. 1996) was administered at the 15-month follow-up in order to measure mothers' experiences of IPV. The CTS-2 is one of the most commonly used self-report measures of IPV and includes 39 total items measuring violent behaviors committed by the respondent's partner. The Physical Assault Subscale includes 12 items in which respondents were asked how often the violent behavior (throwing something, twisting arm/hair, pushing or shoving, grabbing, slapping, using knife/gun, punching or hitting with something, choking, slamming against wall, kicking, beating up, burning or scalding) occurred in the past year. To account for severity, the scale was further divided into two categories: minor assault (throw object, twist arm/hair, push/shove, grab, slap) and severe assault (knife/gun, punch/hit, choke, slam, kick, beat up, burn) (Strauss et al. 1996). Each item was rated on a scale of 0 to 7: has never happened, happened one time, happened two times, three-to-five times, six-to-ten times, eleven-to-twenty times, more than twenty times, or has happened, but not in the past year. For the present study, items were dichotomized during analysis to simply capture whether or not the behavior occurred in the past year before calculating the minor and severe assault subscores. Psychometric evaluations of the CTS-2 report strong test-retest reliability ($PPM = .86$, $p < .05$; Vega & O'Leary, 2007), moderate-to-large inter-partner agreement (Vega & O'Leary, 2007), and moderate-to-high internal consistency (Cronbach's α = .79 - .95; Strauss et al., 1996).

***Destructive Conflict Behaviors***

A novel measure of nonviolent destructive verbal conflict behaviors between partners was created for the BSF study and was administered at the 15-month follow-up survey. This measure included nine survey items (Cronbach's α = .88; Hershey et al., 2008) assessing harmful conflict management approaches, measured on a four-point scale (i.e., often, sometimes, rarely, never). Items were reverse-coded for the present study so that higher scores indicate more destructive conflict behaviors. These items measured the level of criticism or contempt the partners demonstrated toward each other, their tendency to escalate or withdraw from arguments or engage in personal attacks, and other harmful conflict management behaviors. Items include: "My partner blames me for things that go wrong;" "When we discuss something, my partner acts as if I am totally wrong;" "When we argue, one of us is going to say something we will regret;" 'When we argue, I feel personally attacked by my partner;" "When we argue, I get very upset;" "Little arguments turn into ugly fights with accusations, criticism, name-calling, or bringing up past hurts;" "My partner puts down my opinions, feelings, or desires;" "My partner seems to view my words or actions more negatively than I mean them to be;" and "When we argue, one of us withdraws and refuses to talk about it anymore."

***Child Behavior Problems***

The Behavior Problems Index (BPI; Peterson & Zill, 1986) was administered to parents at the 36-month follow-up survey. In most cases, items were administered to mothers only; fathers only reported on child behavior problems if the mother did not live with the child. This measure was created to assess the frequency, range, and type of behavior problems for children.

It includes 28 items which were derived from the Achenbach Child Behavior Problems Checklist (CBCL; Achenbach & Edelbrock, 1981) and other child behavior scales (Graham & Rutter 1968; Kellam et al., 1975). Items were reverse-coded in the present study so that higher scores indicate more frequent behavior problems. Psychometric properties of the BPI reported in previous studies revealed high internal consistency (Cronbach's $\alpha$ = .89 - .90; Gortmaker et al., 1990; Zill, 1990). The present study utilized subscale scores created by summing the frequency of child internalizing and externalizing behavior problem items reported by mothers.

***Maternal Engagement***

In order to assess mothers' engagement in cognitive and social play, they were asked at the 15-month follow-up to report the frequency with which they engaged in the following activities with the child during the past month: sang songs, read or looked at books, told stories, and played with games or toys. Items were reverse-coded for the present study so that higher scores indicate more frequent engagement. Similar summative scales measuring parents' engagement in cognitively stimulating activities have been used in prior large-scale studies and evaluations such as the National Evaluation of Early Head Start and the Fragile Families and Child Wellbeing Study. These studies show that the composite scale is highly reliable (Cronbach's $\alpha$ = .91).

***Maternal Mental Health***

Mothers' reports of depressive symptoms were obtained at the 15-month follow-up using the 12-item abridged version of the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). This measure employs a four-point scale (i.e., rarely or none of the time, some of the time, a moderate amount of time, most or all of the time) to assess the frequency of respondents' experiences of sadness, loneliness, and disturbances in sleep, appetite, and concentration, “in the last week.” This 12-item version has previously been found to have high reliability in the BSF sample (Cronbach’s $\alpha = .89$ for mothers; Wood et al., 2012). In the present study, total sum scores were utilized as a covariate in analyses.

**Data Analysis**

Given that less than 1% of the sample data were missing, listwise deletion and mean imputation were used to handle missing data (Little & Rubin, 2002). Descriptive statistics and correlations were conducted using IBM SPSS 26.0, and the hypothesized latent class analysis and conceptual models were tested using M*Plus* 8 (Muthén & Muthén, 1998-2019).

Latent class analysis (LCA; Muthén & Muthén, 1998-2019) is an empirically-driven procedure which utilizes common patterns of observations on indicator variables to define profiles of individuals. In the present study, participant’s ratings of nonviolent destructive conflict (DC) behaviors, minor IPV assault, and severe IPV assault were used as indicator variables in the LCA. Robust Maximum likelihood estimation, which addresses non-normality in the data, was used to classify participants into groups and information criteria-based fit statistics, entropy, and the Lo-Mendell-Rubin (LMR; Lo et al., 2001) test were used to assess overall model fit and the accuracy of classification. Information criteria-based fit indices utilized in analysis include the Akaike Information Criteria (AIC; Akaike, 1987), Bayesian Information Criteria (BIC; Schwartz, 1978) and sample size-adjusted BIC: lower values on these fit statistics indicate better model fit. Entropy, a statistic used to assess the accuracy with which models classify individuals into their most likely groups, can range from 0 to 1, with higher scores indicating greater classification accuracy. The LMR test is used to compare model fit between sequential class models and provides a p-value to indicate significant model fit improvement.

Models with different possible class solutions were tested sequentially until the model which best fits the data could be determined.

## Results

### Latent Class Model Estimation

First, 2-, 3-, 4-, 6-, and 9-class solutions were tested sequentially using indicator variables of nonviolent destructive conflict behaviors, minor IPV assault, and severe IPV assault, and model fit and interpretability of latent classes were evaluated (see *Table 2* for a summary of model fit statistics).The resulting model suggests a 6-class solution, consisting of six combinations of two levels of IPV (low, high) and three levels of nonviolent destructive conflict (DC; low, moderate, high), and fit the data well (*AIC* = 10901.591, *BIC* = 10977.955, *AdjBIC* = 10930.309, *Entropy* = .787). Descriptive statistics of indicator scores for each class are presented in *Table 3*.

Class 1 ("low IPV-low DC") was defined by low IPV and low destructive conflict scores (*n* = 356), Class 2 ("low IPV-moderate DC") by low IPV and moderate destructive conflict scores (*n* = 683), Class 3 ("low IPV-high DC") by low IPV and high destructive conflict scores (*n* = 91), Class 4 ("high IPV-low DC") by high IPV and low destructive conflict scores (*n* = 1), Class 5 ("high IPV-moderate DC") by high IPV and moderate destructive conflict scores (*n* = 13), and Class 6 ("high IPV-high DC") by high IPV and high destructive conflict scores (*n* = 21). Class 4 included only one participant and was excluded from further analyses.

Pairwise comparisons of mean indicator scores across groups provide further support for the separation of classes in the final model. Destructive conflict scores significantly differed across all groups, with the exception of the comparison between the low IPV-high DC and high IPV-high DC groups (*Table 4*). Minor IPV assault scores differed significantly across all groups, with the exception of the comparison between the high IPV-moderate DC and high IPV-high DC groups (*Table 4*). Severe IPV assault scores significantly differed across all groups, except for the comparisons between the low IPV-low DC and low IPV-moderate DC groups, and between the high IPV-moderate DC and high IPV-high DC groups (*Table 4*). Although mean differences were not observed across all classes, as expected, latent classes were differentiated by at least one assessment and capture heteregoneity in family conflict and communication.

**Effects of Class Assignment on Family Characteristics and Child Outcomes**

By testing changes in chi-square values, mean scores of participant/family characteristics and child outcome measures were evaluated for significant differences across groups. Results indicate that class assignment was significantly related to differences in these scores. Results are summarized below (see *Table 3*).

Classes were assessed for group differences in baseline demographic variables, including parent age, racial/ethnic identity, welfare status, and maternal mental health, in order to understand how socioeconomic status and family characteristics might influence class assignment. Results suggest that individuals did not significantly differ across classes by family demographic characteristics (parent age and racial/ethnic identity), though class assignment did differ by welfare status and maternal mental health ($\chi^2 (4) = 12.135$, $p = .016$ and $F (5, 1162) = 56.729$, $p < .001$, respectively).

Reported receipt of welfare benefits appeared to be higher in classes with high destructive conflict (low IPV-high DC; 63.7%) and high IPV (high IPV-moderate DC; 69.2%, and high IPV-high DC; 66.7%, respectively), as compared to those in the low IPV-low DC and low IPV-moderate DC groups (48.9%, 57.7%, respectively).

Results of pairwise comparisons of mean maternal mental health scores among groups indicated significant differences in nearly all pairs. Mothers' reported depressive symptoms at baseline appeared to be greater in classes with higher destructive conflict, with mean scores as follows from lowest to highest: low IPV-low DC ($M$ = 14.69); high IPV-moderate DC ($M$ = 15.50); low IPV-moderate DC ($M$ = 17.16); high IPV-high DC ($M$ = 24.64); low IPV-high DC ($M$ = 25.64). These results suggest that baseline maternal mental health scores are important to consider within the full model, as differences in child outcome variables may be influenced by mothers' depressive symptoms reported at baseline – which may or may not be related to their experiences of IPV or destructive conflict – rather than class assignment based upon reports of family conflict 15 months later. For this reason, baseline maternal mental health scores were included in the full model as a covariate.

**Effects of Family Conflict on Child Adjustment and Maternal Engagement**

In order to assess if levels of child behavior problems and maternal engagement differ across classes, and whether the association between maternal engagement and child behavior problems differ among family conflict typologies, a multigroup path analysis was employed. First, the direct links between family conflict, maternal engagement assessed at 15-months, and child behavior problems assessed at 36-months were examined. Next, indirect links between IPV, destructive conflict behaviors, and child outcomes via maternal engagement were examined. Last, the degree of associations between the direct and indirect links were compared across family conflict typologies (*Figures 1-3; Table 3*).

***Effects of Family Conflict***

In the overall model, without considering the influence of class assignment, child externalizing behavior problems were significantly predicted by destructive conflict ($\beta$ = .177, $p$

< .001) and inversely by maternal engagement ($\beta$ = -.124, $p$ = .002). Child internalizing behavior problems were significantly predicted by destructive conflict ($\beta$ = .067, $p$ = .021) and inversely by maternal engagement ($\beta$ = -.087 $p$ = .001). Additionally, maternal engagement was significantly and inversely related to destructive conflict ($\beta$ = -.147, $p < .001$; *Figure 2*).

Child externalizing problems differed across groups, specifically between the low IPV-low DC and low IPV-moderate DC groups ($\Delta\chi^2$ = 5.337, $p$ = .031), the low IPV-low DC and high IPV-high DC groups ($\Delta\chi^2$ = 13.847, $p < .001$), and the low IPV-moderate DC and high IPV-high DC groups ($\Delta\chi^2$ = 8.510, $p$ = .022). The high IPV-moderate DC group had the highest mean externalizing score ($M$ = 12.500) and the low IPV-low DC group had the lowest ($M$ = 6.390). Results suggest that on average, classes with higher levels of inter-parental conflict predict higher rates of child externalizing problems.

Child internalizing problems differed significantly across groups, specifically between the low IPV-moderate DC and high IPV-moderate DC groups ($\Delta\chi^2$ = 10.283, $p$ = .047), the low IPV-moderate DC and high IPV-high DC groups ($\Delta\chi^2$= 6.367, $p$ = .007), and the low IPV-high DC and high IPV-high DC groups ($\Delta\chi^2$ = 6.219, $p$ = .021). The low IPV-high DC group had the highest mean internalizing score ($M$ = 3.854) and the low IPV-low DC group having the lowest ($M$ = 2.073), suggesting that on average, families with higher levels of inter-parental conflict experience higher rates of child internalizing problems.

Maternal engagement differed significantly across all groups, specifically between the low IPV-low DC and low IPV-high DC groups ($\Delta\chi^2$ = 2.004, $p$ = .005), low IPV-low DC and high IPV-moderate DC groups ($\Delta\chi^2$ = 4.305, $p < .001$), low IPV-low DC and high IPV-high DC groups ($\Delta\chi^2$ = 3.002, $p$ = .018), and the low IPV-moderate DC and high IPV-moderate DC groups ($\Delta\chi^2$ = 3.129, $p$ = .003). Mean maternal engagement scores appeared to be higher (indicating more engagement) for those assigned to groups characterized by less family conflict, with mean scores as follows from lowest to highest: high IPV-moderate DC ($M$ = 17.333); high IPV-high DC ($M$ = 18.636); low IPV-high DC ($M$ = 19.634); low IPV-moderate DC ($M$ = 20.463); low IPV-low DC ($M$ = 21.638).

***Indirect Effects of Maternal Engagement***

In the overall model, the indirect effect of maternal engagement on the association between child externalizing behavior problems and destructive conflict was significant ($\beta_{indirect}$ = .018, $p$ = .012). Additionally, the indirect effect of maternal engagement on the link between child internalizing behavior problems and destructive conflict was significant ($\beta_{indirect}$ = .013, $p$ = .008; *Figure 2*).

***Interactions among Family Conflict, Child Outcomes, and Maternal Engagement***

Differences in paths among family conflict, maternal engagement, and child behavior problems were evaluated across groups by testing changes in chi-square values. Results indicate significant differences in the direct association between child internalizing behavior problems and destructive conflict behaviors across groups, specifically between the low IPV-low DC and high IPV-moderate DC ($\Delta\chi^2$ = .447, $p$ < .001), low IPV-moderate DC and high IPV-moderate DC ($\Delta\chi^2$ = . 575, $p$ < .001), low IPV-moderate DC and high IPV-high DC ($\Delta\chi^2$ = .222, $p$ = .032), low IPV-high DC and high IPV-moderate DC ($\Delta\chi^2$ = .576, $p$ < .001), low IPV-high DC and high IPV-high DC ($\Delta\chi^2$ = .241, $p$ = .032), and high IPV-moderate DC and high IPV-high DC ($\Delta\chi^2$ = .335, $p$ = .011) groups. Further examination of group differences indicate that this relationship is significant only for the low IPV-moderate DC ($\beta$ = .092, $p$ = .001) and high IPV-moderate DC ($\beta$ = -.465, $p$ < .001) groups.

The relationship between maternal engagement and child externalizing problems differed significantly across groups, particularly between the low IPV-low DC and high IPV-moderate DC ($\Delta\chi^2 = .624$, $p = .023$), low IPV-moderate DC and high IPV-moderate DC ($\Delta\chi^2 = .645$, $p = .019$), low IPV-high DC and high IPV-moderate DC ($\Delta\chi^2 = .643$, $p = .032$), and high IPV-moderate DC and high IPV-high DC ($\Delta\chi^2 = .703$, $p = .034$) groups. Examining these group differences further revealed significant inverse relationships between maternal engagement and child externalizing problems in the low IPV-low DC ($\beta = -.114$, $p = .014$) and low IPV-moderate DC ($\beta = -.135$, $p = .002$) groups, though the relationship did not differ significantly between these two groups. The association between these two constructs was not significant in any other group ($p > .05$).

Results also indicate significant group differences in the relationship between maternal engagement and child internalizing problems, specifically between the low IPV-low DC and high IPV-moderate DC ($\Delta\chi^2 = -.493$, $p < .001$), low IPV-moderate DC and high IPV-moderate DC ($\Delta\chi^2 = -.518$, $p < .001$), low IPV-high DC and high IPV-moderate DC ($\Delta\chi^2 = -.544$, $p < .001$), and high IPV-moderate DC and high IPV-high DC ($\Delta\chi^2 = .313$, $p = .038$) groups. Further examination of group differences indicate that this relationship is significant for the low IPV-low DC ($\beta = -.078$, $p = .006$), low IPV-moderate DC ($\beta = -.103$, $p < .001$), low IPV-high DC ($\beta = -.129$, $p = .043$), and high IPV-moderate DC ($\beta = .415$, $p < .001$) groups, but not for the high IPV-high DC group.

Lastly, when comparing across groups the indirect effects of maternal engagement on the relationships between externalizing behavior problems and destructive conflict ($\beta_{indirect} = .019$, $p = .007$), and between internalizing behavior problems and destructive conflict ($\beta_{indirect} = .014$, $p =$

.003), results indicate significant indirect effects in only the low IPV-moderate DC group (*Figure 3*).

## Discussion

The present study examined family conflict typology as indicated by mothers' experiences of violent and non-violent conflict, and then assessed how conflict differentially impacted maternal engagement and child behavior problems. Overall, the presented results were consistent with the related literature and support the proposed hypotheses, and additionally illuminated unique avenues for targeted intervention.

The results of the latent class analysis suggest that families can be classified into five groups characterized by reported levels of violent and non-violent conflict, and the characterization of these groups is intuitive. Moreover, given the expected restricted range and skewed distribution in reports of family conflict, separating the indicator variables into high/low or high/moderate/low levels is consistent with previous studies which attempted to identify classes of family conflict based upon reported frequency/severity (e.g., Charak & Koot, 2015). The decision to exclude the high IPV-low DC group from further analysis based upon interpretability was theoretically sound, although the group size of one was sufficient for exclusion. When considering the interpretability of a group of individuals experiencing frequent intimate partner violence but not engaging in unhealthy verbal conflict tactics, it is clear why only one participant was categorized by this unlikely pattern of responses.

Baseline family characteristics and demographics are always important to consider when studying families, but particularly so when studying family conflict, as the connection between family conflict, cultural/ethnic background, and socioeconomic status is well-supported in the literature (Bowen, 2017; Breiding et al., 2008; Fogarty et al., 2020; Kolsky & Gee, 2021; Miller et al., 2014). Although results of the present study did not find that parent ethnicity predicted family conflict typology, results did support the importance of socioeconomic status, suggesting that families classified as experiencing higher levels of conflict were more likely to report recently receiving welfare benefits, as compared to those in groups with low IPV and low or moderate destructive conflict. Additionally, initial results of the present study indicated that mothers' reports of depressive symptoms at baseline would be important to include in the model as a covariate. Controlling for maternal mental health allowed for differences in child behavior problems as a result of family conflict and maternal engagement to be clear without potential confounding influence from mothers' depressive symptoms, which may or may not be related to their experiences of IPV or destructive conflict.

Consistent with the literature, results support the proposed hypothesis that greater child behavior problems would be observed over time in families characterized by higher levels of inter-parental conflict. Results suggest this is true for both externalizing and internalizing behavior problems. This information may be especially important for researchers and practitioners who engage in intervention efforts for children who experience family conflict from a very young age. Also relevant for intervention efforts, results of the overall model indicate that maternal engagement may act as a protective factor for children who experience more family conflict. However, examination of group differences revealed that for families who engage in more family conflict, mothers may have a harder time engaging their children in positive social play. This may very well be due to the increased stress and mental health struggles experienced by mothers in abusive or unhealthy relationships. Practitioners who work with families experiencing abuse or conflict might consider targeting mothers' ability to engage in positive social play with their children in order to minimize negative impacts on child adjustment. It is important, however, for practitioners to coach mothers on the quality of the engagement with their children while encouraging them to support their own mental health. One outcome of the present study indicated that more frequent maternal engagement was related to increased child externalizing problems, specifically in the group characterized by high IPV and moderate DC. This is especially important to consider within the context of the measurement tools utilized in the present study, as the measure of maternal engagement assessed only the reported frequency of maternal engagement in play, not the quality of the interactions. Given this information, it is possible that when mothers who are in abusive relationships attempt to engage in more frequent play with their children, these interactions may quickly turn negative due to mothers' increased distress, leading to greater child behavior problems (i.e., Paschall et al., 2017).

Close examination of the direct impact of non-violent interparental conflict on child adjustment indicated that unhealthy argument tactics may be more influential for the development of internalizing problems in young children who experience moderate levels of destructive conflict, compared to low or high levels. This was true for both the low IPV- and high IPV-moderate DC groups, though results also suggest that the nature of this relationship may depend upon whether parents also engage in physical violence or not. In the group characterized by low IPV, greater destructive conflict was associated with more internalizing behavior problems in young children, as expected. However, in the group characterized by high IPV, destructive verbal conflict was associated with less child internalizing problems. It is possible that this is due to measurement error, as parents' reports of children's internalizing symptoms, especially for very young children with limited verbal and emotion identification skills, can sometimes be inaccurate. It may also be possible that for families who experience higher levels of both IPV and destructive verbal conflict, children are less likely to express signs of anxiety, depression, and somatization to parents who fight and argue often.

### *Study Limitations*

Several factors which could not be addressed prior to the present study may have limited the results. Most notably, all variables were obtained through self-report from only mothers, and it is possible that this may have influenced results. Ideally, the present study would have included varying measurement methods and additional reporters (e.g., observation of maternal engagement, father report of child behavior problems). Additionally, the present study included only a report of child behavior problems at the 36-month follow-up. It is possible that some children may have had underlying behavior problems unrelated to parental factors, thus it would have been preferable to include a report of behavior problems from the 15-month timepoint as a covariate in the model to control for this. Another potential limitation to the present study was the small sample size in some groups. This was likely due to the expected positive skew in reports of IPV and family conflict, evidenced by smaller sample sizes in groups characterized by higher levels of conflict (i.e., high IPV-moderate DC group, $n$ = 13; high IPV- high DC group, $n$ = 21). This may have resulted in inadequate power for the analyses conducted and thus may have obscured potentially significant relationships in these groups. Furthermore, sample sizes for groups characterized by higher levels of conflict may have been additionally limited by the IPV exclusion criteria, as families with high levels of IPV may have been determined to be ineligible for the BSF study altogether. Lastly, the sample of participants for the present study was derived from a randomized clinical trial which assigned participants to control or treatment groups at baseline. It is possible that, although participants were randomized, results may differ among control and treatment groups. Fitting the resulting model to other samples of participants may be one way to evaluate this in the future.

### *Future Directions*

Future attempts to apply the resulting model or another hypothesized model of family conflict typologies may expand upon the present study in many ways. As previously discussed, testing the model with a sample of participants from the BSF treatment group may provide an interesting avenue to assess the potential impact of parent relationship intervention(s) on child adjustment. Additionally, future studies may expand upon the present study by evaluating potential indirect or interaction effects of maternal mental health and/or welfare status, as evidence of these characteristics relating to family conflict and child adjustment constructs was present in the current study and previously supported in the literature. Including these family characteristics in future related studies may provide more context for the etiology of child behavior problems in conflictual family environments. Lastly, it may be beneficial to examine family conflict constructs at the item level to judge whether response patterns differ from those indicated in the present study when not separated by subscales, etc.

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# Appendix A

## Tables

| Variables | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|
| 1. Destructive Conflict | 10.65 | 6.48 | 1.00 | | | | | |
| 2. Minor IPV | 0.35 | 0.919 | 0.450** | 1.00 | | | | |
| 3. Severe IPV | 0.12 | 0.539 | 0.306** | 0.649** | 1.00 | | | |
| 4. Maternal Mental Health | 17.19 | 6.374 | 0.428** | 0.263** | 0.199** | 1.00 | | |
| 5. Maternal Engagement | 20.70 | 3.697 | -0.209** | -0.143** | -0.122** | -0.088** | 1.00 | |
| 6. Internalizing CBP | 2.79 | 3.062 | 0.224** | 0.069* | 0.044 | 0.226** | -0.157** | 1.00 |
| 7. Externalizing CBP | 7.89 | 4.882 | 0.306** | 0.126** | 0.113** | 0.259** | -0.158** | 0.675** |

*Table 1. Overall means, standard deviations, and bivariate correlations.*

| Class Solution | *AIC* | *BIC* | *AdjBIC* | Entropy |
|---|---|---|---|---|
| 2-Classes (1 IPV level; 1 DC level) | 9497.815 | 9548.071 | 9516.308 | 0.989 |
| 3-Classes (1 IPV level; 2 DC levels) | 12851.960 | 12897.960 | 12869.191 | 0.445 |
| 3-Classes (2 IPV levels; 1 DC level) | 11034.868 | 11080.686 | 11052.099 | 1.000 |
| 4-Classes (2 IPV levels; 2 DC levels) | 10929.127 | 10990.218 | 10952.101 | 0.722 |
| 6-Classes (2 IPV levels; 3 DC levels)* | 10901.591 | 10977.955 | 10930.309 | 0.787 |
| 6-Classes (3 IPV levels; 2 DC levels) | 9460.473 | 9536.836 | 9489.190 | 0.785 |
| 9-Classes (3 IPV levels; 3 DC levels) | 9432.937 | 9524.573 | 9467.389 | 0.826 |

*Table 2. Fit statistics for sequential LCA class solutions.*
**Final model*

| Variable | 1. Low IPV-Low DC | 2. Low IPV-Mod DC | 3. Low IPV-High DC | 4. High IPV-Mod DC | 5. High IPV-High DC | F-test (5,1162) |
|---|---|---|---|---|---|---|
| Destructive Conflict | | | | | | 803.733* |
| *Mean* | 3.649 $^{2,3,4,5}$ | 12.092 $^{1,3,4,5}$ | 23.484 $^{1,2,4}$ | 15.846 $^{1,2,3,5}$ | 23.857 $^{1,2,4}$ | |
| *SD* | (1.915) | (3.652) | (2.057) | (2.567) | (1.612) | |
| Minor IPV | | | | | | 166.002* |
| *Mean* | 0.039 $^{2,3,4,5}$ | 0.243 $^{1,3,4,5}$ | 1.198 $^{1,2,4,5}$ | 3.321 $^{1,2,3}$ | 3.381 $^{1,2,3}$ | |
| *SD* | (0.266) | (0.671) | (1.431) | (1.423) | (1.174) | |
| Severe IPV | | | | | | 903.130* |
| *Mean* | 0.008 $^{3,4,5}$ | 0.037 $^{3,4,5}$ | 0.176 $^{1,2,4,5}$ | 2.462 $^{1,2,3}$ | 3.000 $^{1,2,3}$ | |
| *SD* | (0.089) | (0.187) | (0.381) | (0.930) | (0.926) | |
| Maternal Engagement | | | | | | 7.679* |
| *Mean* | 21.562 $^{2,3,4,5}$ | 20.482 $^{1,5}$ | 19.736 $^{1}$ | 18.462 $^{1}$ | 19.000 $^{1}$ | |
| *SD* | (3.375) | (3.744) | (3.741) | (2.649) | (4.364) | |
| $R^2$ | 0.137 | 0.025 | 0.124 | 0.458 | 0.304 | |
| Externalizing CBP | | | | | | 19.261* |
| *Mean* | 6.309 $^{2,5}$ | 8.127 $^{1,5}$ | 10.890 | 11.000 | 11.238 $^{1,2}$ | |
| *SD* | (4.341) | (4.781) | (5.288) | (6.026) | (3.853) | |
| $R^2$ | 0.096 | 0.070 | 0.281 | 0.408 | 0.478 | |
| Internalizing CBP | | | | | | 11.220* |
| *Mean* | 2.008 | 2.949 $^{4,5}$ | 4.352 $^{5}$ | 4.000 $^{2}$ | 3.048 $^{2,3}$ | |
| *SD* | (6.317) | (3.137) | (3.717) | (3.211) | (1.889) | |
| $R^2$ | 0.029 | 0.060 | 0.248 | 0.672 | 0.442 | |
| Maternal Mental Health | | | | | | 56.729* |
| *Mean* | 14.694 $^{2,3,5}$ | 17.305 $^{1,3,5}$ | 23.802 $^{1,2,4}$ | 18.615 $^{3,5}$ | 25.667 $^{1,2,4}$ | |
| *SD* | (4.078) | (6.057) | (8.414) | (8.063) | (7.561) | |

*Table 3. Means, standard deviations, and $R^2$ values (outcomes only) by class assignment. Superscript denotes groups with which significant differences were indicated by chi-square difference tests (see Table 4).*

* $p < .001$

| Conflict Typology Group | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. Low IPV-Low DC | | | | |
| 2. Low IPV-Moderate DC | | | | |
| Destructive Conflict | 8.425* | | | |
| Minor IPV | 0.168* | | | |
| Severe IPV | 0.012 | | | |
| 3. Low IPV-High DC | | | | |
| Destructive Conflict | 20.014* | 11.589* | | |
| Minor IPV | 1.383* | 1.215* | | |
| Severe IPV | 0.203* | 0.191* | | |
| 4. High IPV-Moderate DC | | | | |
| Destructive Conflict | 12.523* | 4.097* | 7.492* | |
| Minor IPV | 2.777* | 2.609* | 1.394* | |
| Severe IPV | 2.483* | 2.471* | 2.280* | |
| 5. High IPV-High DC | | | | |
| Destructive Conflict | 19.720* | 11.294* | 0.295 | 7.197* |
| Minor IPV | 2.762* | 2.954* | 1.379* | 0.015 |
| Severe IPV | 2.619* | 2.608* | 2.417* | 0.136 |

*Table 4. Chi-Square difference scores indicating mean differences in indicator scores across groups.*
* $p < .05$

# Appendix B

## Figures

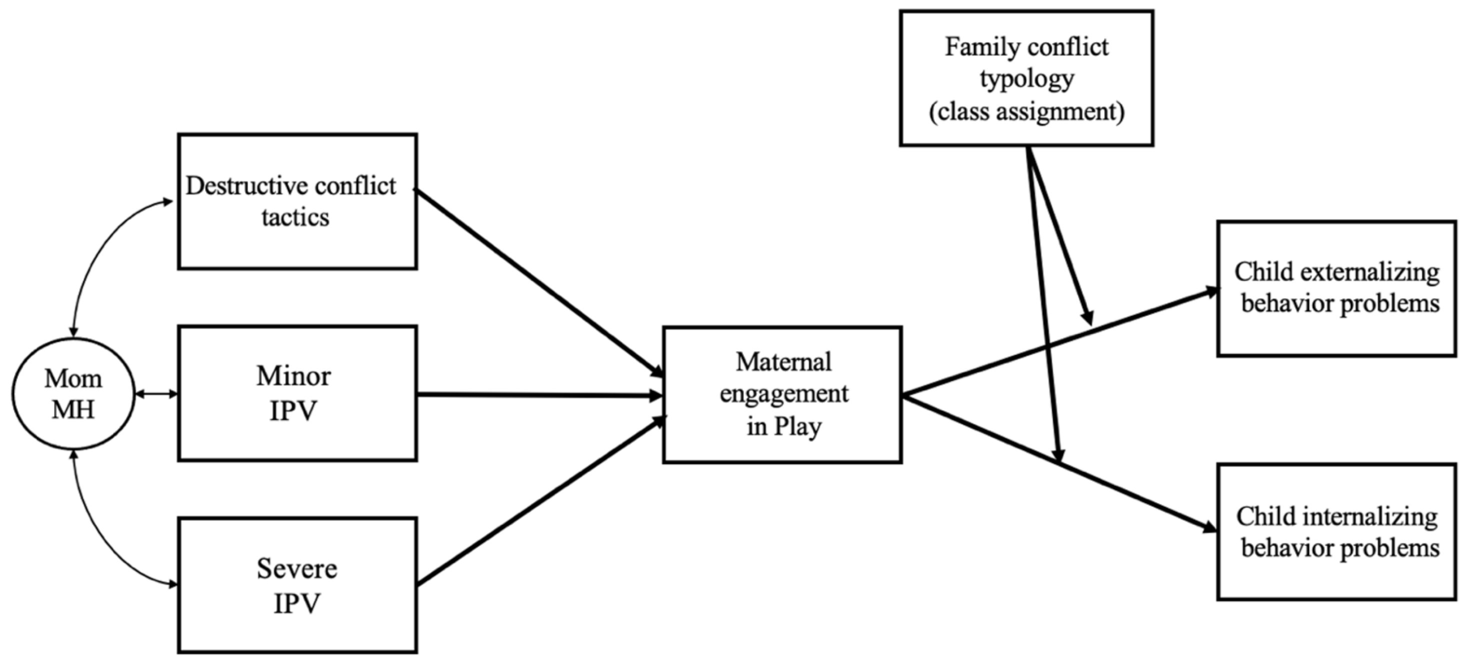


*Figure 1. Overall theoretical model.*

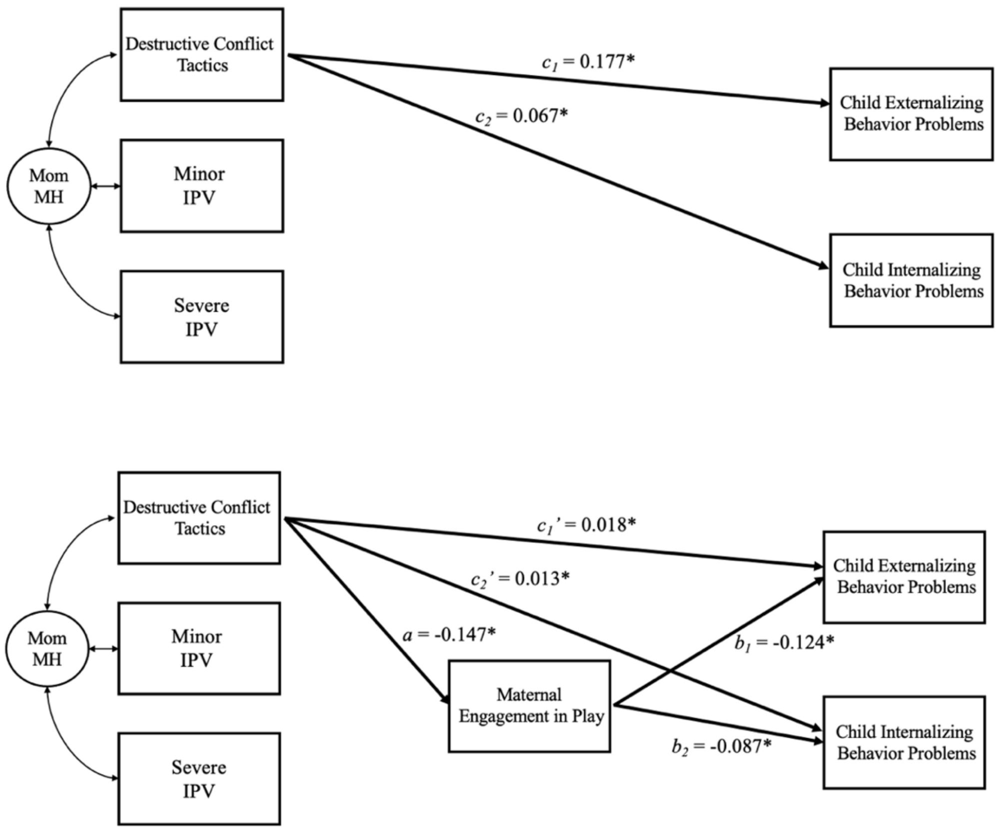


*Figure 2. Overall model with significant direct and indirect effects.*
** $p < .05$*

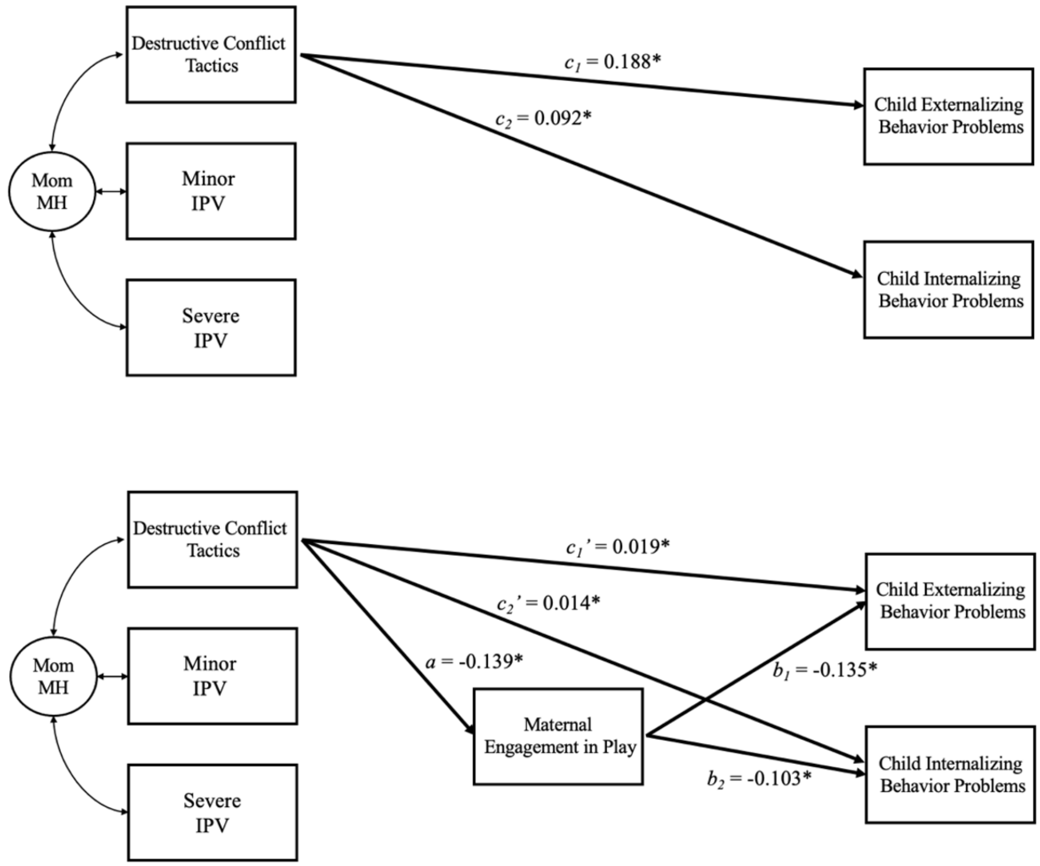


*Figure 3. Low IPV-Moderate DC model with direct and indirect effects.*
** p < .05*