INTERPARENTAL CONFLICT, TODDLER EMOTIONAL SECURITY, PARENTAL
EMOTION SOCIALIZATION, AND TODDLER SOCIO-EMOTIONAL OUTCOMES:
TESTING DYADIC DYNAMICS USING ACTOR-PARTNER INTERDEPENDENCE
MODELS

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

Human Development and Family Studies - Doctor of Philosophy

2016

ABSTRACT

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While much literature has focused on interparental conflict, parenting, and children's socio-emotional outcomes, less research has utilized a dyadic perspective emphasizing the interdependent nature of mother-father relationship with regard to the impacts of interparental conflict on parenting and children's outcomes. This dissertation provides evidence from two related studies revealing the ways in which mothers' and fathers' experiences with interparental conflict affect their own and their partners' emotion socialization parenting behaviors, toddlers' emotional security in response to conflict and toddlers' behavioral outcomes.

Utilizing a family-systems approach highlighting the interdependence among family subsystems including the parental subsystem, the goal of the Study 1 was to examine the relations between mothers' and fathers' interparental conflict and their emotion socialization behaviors. Dyadic analyses were conducted using multilevel modeling specifically employing the Actor-Partner Interdependence Model (APIM). Results showed that spillover pathways, in which destructive interparental conflict predicted their own negative emotion socialization and crossover pathways, in which constructive interparental conflict marginally predicted partners' negative emotion socialization. Further, the robustness of these pathways was similar for both mothers and fathers. The purpose of the Study 2 was to examine young children's emotional security as mediating associations between mothers' and fathers' interparental conflicts and young children's problem behaviors. Study 2 employed emotional security theory, which

characterizes how young children respond to tension interparental conflict in the family system. Tests of actor–partner interdependence mediation models (APIMeM) were conducted to examine whether actor or partner effects of interparental conflict on young children's problem behavior were mediated by the actor's (one's own) or the partner's perception of young children's emotional security. In Study 2, actor effects referred to the association of the parent's own predictor variables with his or her outcome variables, and partner effects referred to the association of a partner's predictor variables with one parent's outcome variables. Results showed that, for both mothers and fathers, actor and partner effects of destructive conflict on children's problem behaviors occurred through actor and partner mediators (children's emotional security). For only mothers, both actor and partner effects of constructive conflict on children's behavior problems were mediated by children's emotional security.

To summarize, results of these studies have important implications for more fully understanding interdependent relations between mothers and fathers in the context of inteparental conflict and their effects on parental emotion socialization and children's socio-emotional development. Findings of Study 1 suggest that intervention programs need to involve both parents because improving one parent's constructive resolution techniques and supportive emotion socialization may not allow for substantial change within another unsupportive parent. Findings of Study 2 suggest that interventions designed for both mothers' and fathers' awareness of damage to children's emotional insecurity during destructive conflict could enhance parents' more adaptive conflict management and children's security, thereby minimizing child behavior problems. Further, Study 2 findings also help understanding how perceptions of interparental conflict from either parent are associated with parental view of child emotional security and behavior problems.

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CHAPTER 1

INTRODUCTION

Considerable evidence has accumulated regarding the impact of interparental conflict on children's developmental outcomes (Davies & Cummings, 1994). To date, detrimental effects of destructive conflict on children's socio-emotional outcomes have been well-known but there has been little attention to examining the effects of both destructive and constructive conflict on children and little consideration of the interdependent relations between mothers' and fathers' experiences with interparental conflict (Cummings & Davies, 2011). This is problematic because one parent's emotions and behaviors in a certain context trigger reciprocal changes in emotions and behaviors of partner (crossover pathway) as well as changes of his/her own emotions and behaviors in another context (spillover pathway) (Bakker & Demerouti, 2013).

The field of child development has moved toward embracing systemic approaches to studying the family as a context for children's development and hascalled for research to disentangle the processes through which interparental conflict affects early development (Cummings & Davies, 2011). Cummings and Davies (Cummings & Davies, 2002) refer to this disentanglement of process as a process-oriented approach. Specifically, they emphasize the need to identify pathways embedded within specific family contexts, such as marital subsystems, and developmental periods which account for effects on the children's socio-emotional development. They also suggest two pathway models to explain the relations between interparental conflict and children's outcomes: *the indirect effects model* and *the direct effects model* (Cummings & Davies, 2011; Davies, Sturge-Apple, Winter, Cummings, & Farrell, 2006). In the *indirect effects model*, interparental conflict affects children's development through other family factors such as parenting styles. The *indirect effects model* suggests that the association

between interparental conflict and parenting is central process to explain the *indirect effects model* in emotional relationship of family (Cummings & Davies, 2011). In contrast, the *direct effects model* suggests that interparental conflict directly affects children's development by increasing children's distress of reactivity to conflict. Pursuant with this concept, the purpose of Study 1 was to examine links between interparental conflict and parental emotion socialization. Parental emotion socialization includes parental beliefs and values regarding emotions and emotional expression and their behaviors in response to children's expression of emotion. These beliefs, values and practices socialize children's emotion understanding, emotional experience, expression of emotion, and regulation of emotion (Eisenberg, Cumberland, & Spinrad, 1998). The purpose of Study 2 was to examine children's emotional security as mediating the effects of interparental conflict on children's problem behaviors.

Additional Explanations of Study 1

Although previous research has primarily focused on how interparental conflict affects general parenting styles (e.g., poor behavioral management, greater psychological control such as love withdrawal and guilt induction, lack of support such as low levels of warmth and acceptance) (Krishnakumar & Buehler, 2000), the relation between both mothers' and fathers' perceptions of interparental conflict and parental (including both mothers' and fathers') emotion socialization have less often been studied together (Cummings & Davies, 2011). Cummings and Davies emphasized that "martial conflict should be most likely to influence emotion-laden domains of parenting" (Cummings & Davies, 2011, p. 117) because in the context of more severe marital or interparental conflict, partners may not perceive each other as secure bases for regulating distress. Therefore, interparental conflict is hypothesized to influence the emotion-oriented dimensions of parenting, such as parental emotion socialization beliefs and practices

because negative emotions and distress that emerge from couple conflict may be transmitted to parental emotion socialization behaviors. Broadly, family systems theory provides sufficient evidence for the hypotheses between the interparental conflict and emotion related parenting by stressing the interdependencies between mothers and fathers. In order to explain the interdependencies between mothers and fathers, family systems theory postulates spillover pathways, which reflect emotional/behavioral transfers within a parent, and crossover pathways, which refer to the transfer of emotions or behaviors between mothers and fathers (Bolger, DeLongis, Kessler, & Wethington, 1989; White, 1999). Recently, researchers have highlighted the need to (a) examine how the interparental conflict is associated with parental emotion socialization practices (Nelson et al., 2012; Nelson, O'Brien, Blankson, Calkins, & Keane, 2009) and (b) move beyond mother-centered approaches (that typically emphasize the role of mothers) in favor of studying the interdependence between maternal and paternal perceptions of the interparental conflict and their parental emotion socialization (Nelson et al., 2009; Ponnet et al., 2012).

Contemporary fathers are more engaged in child care than were fathers in the past so that a wealth of research now exists on the roles of fathers in children's development. Although socialization researchers also have focused some attention on the roles of fathers as well as the roles of mothers (Amato, Meyers, & Emery, 2009; Lamb, 2012), most researchers conduct separate analyses for maternal and paternal data (e.g. creating composite scores by averaging or summing the mother- and the father-report ratings) that ignore the interdependent relationship between both parents. In order to improve the limitation of traditional research which ignores interdependence in two person relationships, researchers have increasingly used the Actor–Partner Interdependence Model (APIM: Kenny, Kashy, & Cook, 2006) in studies of socialization

(Cook & Kenny, 2005). In APIM, the scores of two correlated parents are treated as if they are independent observations so that the effects within and between parents can be examined. Thus, APIM is an appropriate model to explain that the predictor variables of both the parent (actor effects) and the parent's partner (partner effects) affect the parent's own outcome variable (Nelson et al., 2009; Ponnet et al., 2012). In that, APIM is the best analytic approach to test spillover and crossover pathways between mothers and fathers. Both actor effects and partner effects can be compared for both mothers and fathers and diverse combinations of actor and partner effects can be examined. Thus, Study 1 examined mother-father dyadic relations between interparental conflict and emotion socialization by using the APIM.

Additional Explanations of Study 2

Study 2 was informed by emotional security theory (Davies & Cummings, 1994), which characterizes the ways in which children respond to interparental conflict. According to emotional security theory, preserving emotional security is a primary goal for children in family contexts, even in the face of family stressful situations such as interparental conflict. Emotional security has been defined as "a goal around which functioning is regulated, with emotional (e.g., fear, anger), behavioral (e.g., mediation, withdrawal, intervention) and cognitive (e.g., threat perceptions) responses activated in the service of regaining or maintaining a desired level of emotional security in the face of threats to that goal" (Cummings et al., 2011, p 215). Recently, many researchers have tried to test associations between interparental conflict and children's socio-emotional outcomes by considering children's emotional security as a mediator of the association (Cummings, George, McCoy, & Davies, 2012; Cummings, Schermerhorn, Davies, Goeke-Morey, & Cummings, 2006; Harold, Shelton, Goeke-Morey, & Cummings, 2004).

Although there is increasing evidence for the mediation effects of children's emotional

security on the relations between interparental conflict and child development (Cummings & Davies, 2011), innovative research designs and new approaches to analyze processes accounting for these relations are still needed in order to maximize the usefulness and effectiveness of parenting education and parenting intervention programs. Additionally, more empirical evidence about the potential beneficial impacts of constructive conflict is still needed. It is well documented that destructive interparental conflict undermine children's emotional security and less emotional security increases children's vulnerability to behavior problems by signaling a decrease of parents' ability to manage marital discord and to maintain family stability (Cummings & Davies, 2011). Conversely, however, there is a lack of research showing the role of emotional security in the association between constructive conflict and child socio-emotional outcome. Based on emotional security theory, we can speculate how emotional security mediates association of constructive interparental conflict with child behavior problems. Constructive interparental conflict, including the use of compromise (e.g., efforts to find common ground agreement) and problem solving (e.g., efforts to find possible solutions), may predict relatively high levels of emotional security even in times of stress. In turn, the high levels of emotional security may contribute to fewer children's behavior problems because children believe such challenging conflicts can be effectively resolved by parents (Cummings & Davies, 2011).

Thus, Study 2, examined mediation effects of children's emotional security on the associations between destructive and constructive interparental conflict and parental perceptions of toddlers' problem behaviors by using a recently developed analysis method, the Actor-Partner Interdependence Mediation Model (APIMeM). The APIMeM is an approach to assess mediation effects in dyadic data by extending the standard Actor-Partner Interdependence Model.

Organization of Dissertation

This dissertation aimed to examine dyadic dynamics in the relation between interparental conflict and parental emotion socialization and mediation effects of toddlers' emotional security in the relation between interparental conflict and toddlers' problem behaviors. This dissertation consists of two distinct empirical studies utilizing data from the Families and Children's Emotions Study in which both mothers and fathers, who are raising their toddler (24 to 36 months), participated.

Study 1 in chapter 2 examined effects of destructive and constructive interparental conflict on negative parental socialization. In order to advance the literature by examining evidence of spillover and crossover pathways between mothers and fathers and improve the limitation of research methods which ignore interdependence in two person relationships, I used the Actor–Partner Interdependence Model (APIM: Kenny et al., 2006). The spillover pathway (actor effect) was hypothesized such that (a) greater destructive interparental conflict would be linked with higher levels of each parent's own negative emotion socialization; (b) greater constructive interparental conflict would be linked with lower levels of each parent's own negative emotion socialization. The crossover pathway (partner effect) was hypothesized such that (a) greater destructive interparental conflict would be linked with higher levels of partners' negative emotion socialization; (b) greater constructive interparental conflict would be linked with lower levels of partners' negative emotion socialization.

Study 2 in chapter 3 investigated mediation effects of toddler emotional security on the link between destructive and constructive interparental conflict and toddler problem behavior by using APIMeM (Ledermann, Macho, & Kenny, 2011). The mediation effect was hypothesized such that (a) direct actor effects between interparental conflict and each parent's own perception

on toddlers' problem behavior would be mediated by actor reports of toddlers' emotional security (actor → actor → actor path), and (b) direct actor effects between interparental conflict and each parent's own perception on toddlers' problem behavior would be mediated by partner reports of toddlers' emotional security (actor → partner → actor path). More specifically, (a-i) a significant indirect effect would suggest that greater destructive interparental conflict is linked with higher levels of each parent's own perception on toddlers' problem behavior because he/she tends to perceive that the child has lower levels of emotional security; (a-ii) a significant mediation would suggest that greater constructive interparental conflict is linked with lower levels of each parent's own perception of toddlers' problem behavior because he/she tends to perceive that the child has higher levels of emotional security; (b-i) a significant indirect effect would suggest that greater destructive interparental conflict is linked with higher levels of each parent's own perception of toddlers' problem behavior because his/her partner tends to perceive that the child has lower levels of emotional security; (b-ii) a significant mediation would suggest that greater constructive interparental conflict is linked with lower levels of each parent's own perception of toddlers' problem behavior because his/her partner tends to perceive that the child has higher levels of emotional security.

The mediation effect was also hypothesized such that (a) direct partner effects between interparental conflict and partner's perception on toddlers' problem behavior would be mediated by actor toddlers' emotional security (actor → actor → partner path), and (b) direct actor effects between interparental conflict and partner's perception on toddlers' problem behavior would be mediated by partner toddlers' emotional security (actor → partner → partner path). More specifically, (a-i) a significant indirect effect would suggest that greater destructive interparental conflict is linked with higher levels of partner's perception on toddlers' problem behavior

because he/she tends to perceive that the child has lower levels of emotional security; (a-ii) a significant mediation would suggest that greater constructive interparental conflict is linked with lower levels of partner's perception of toddlers' problem behavior because he/she tends to perceive that the child has higher levels of emotional security; (b-i) a significant indirect effect would suggest that greater destructive interparental conflict is linked with higher levels of the partner's perception of toddlers' problem behavior because his/her partner tends to perceive that the child has lower levels of emotional security; (b-ii) a significant mediation would suggest that greater constructive interparental conflict is linked with lower levels of the partner's perception of toddlers' problem behavior because his/her partner tends to perceive that the child has higher levels of emotional security.

Chapter 4 of this dissertation summarizes the findings from the two studies. Contributions for the developmental research and intervention programs were discussed.

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CHAPTER 2 (STUDY 1)

DYADIC RELATIONS BETWEEN DESTRUCTIVE AND CONSTRUCTIVE INTERPARENTAL CONFLICT AND PARENTAL EMOTION SOCIALIZATION

Abstract

This study examined the effects of destructive and constructive interparental conflict on parents' use of negative emotion socialization behaviors ($N = 166$ parents; 83 mother-father dyads). Both mothers and fathers completed self-report measures of destructive and constructive interparental conflict and negative parental emotion socialization (e.g., emotion dismissing beliefs and unsupportive responses to children's expressions of negative emotions such as anger, fear and sadness). Multilevel modeling (MLM) for the Actor-Partner Interdependence Model (APIM; (Cook & Kenny, 2005) indicated that there were no parental gender differences in the relations between destructive and constructive interparental conflict and negative emotion socialization. Results also revealed a significant spillover (actor) effect of destructive interparental conflict on negative parental emotion socialization and a marginally significant crossover (partner) effect of constructive interparental conflict on negative parental emotion socialization. In short, mothers' and fathers' perceptions of destructive interparental conflict were positively related to their own use of negative emotional socialization behaviors. Mothers' and fathers' perceptions of constructive interparental conflict were (marginally/trend level) negatively related to the other parent's use of negative emotion socialization behaviors. These findings advance the literature on the associations between interparental conflict and parental emotion socialization, examining interdependence between mothers and fathers.

Introduction

Having disagreements and conflicts is natural in interparental relationships. However,

the ways in which parents manage and resolve their conflicts have clear impacts on children's early social-emotional development (McCoy, George, Cummings, & Davies, 2013). Interparental conflicts often involves destructive tactics such as verbal aggression and stonewalling, on the one hand, as well as constructive tactics including the positive resolution of conflict (McCoy et al., 2013). Based on family systems theory, interparental conflict affects children's development through the parent-child relationship (Cox, Paley, & Harter, 2001). Robust empirical evidence highlights relations between interparental conflict tactics and parenting behaviors (Sturge-Apple, Davies, & Cummings, 2006). For example, Coln et al. (Coln, Jordan, & Mercer, 2012) showed that destructive interparental conflict was linked with more parental psychological control, such as guilt induction and love withdrawal, as well as negative parenting practices, such as poor monitoring and corporal punishment. Further, other studies have linked destructive interparental conflict with less consistent and less positive discipline strategies (Davies, Sturge–Apple, & Cummings, 2004; Fauchier & Margolin, 2004; Kim, Pears, Capaldi, & Owen, 2009). Despite a rich body of literature on associations between interparental conflict and general parenting practices, the field is limited by several major gaps. First, only a few studies have focused on the associations between interparental conflict and parental emotion socialization, such as parental emotion beliefs and parental responses to children's negative emotions. Interparental conflict may impact parental emotion socialization more robustly than general parenting practices because interparental conflict elicits emotional distress (Camisasca, Miragoli, & Blasio, 2015). Second, although the system nature of families and parenting is widely recognized (Bakker & Demerouti, 2013), there is a paucity of research that has examined both mothers' and fathers' experiences with parental conflict as it relates to parental emotion socialization. Specifically, considering an intra-individual transmission from

conflict to emotion socialization (spillover effect) and a dyadic, inter-individual transmission from a parent to the partner (crossover effect) can advance the literature because existing literature tends to collect data from one parent only (Coln et al., 2012) or utilize mean or sum scores reflecting both maternal and paternal behaviors (Frankel, Umemura, Jacobvitz, & Hazen, 2015). Third, although a substantial amount of research hypothesized the constructive interparental conflict as an important predictor of parenting (Cummings & Davies, 2011), there is no research demonstrating how parental emotion socialization is related to both destructive and constructive interparental conflict. Examining impact of constructive interparental conflict on parental emotion socialization compared with the impact of destructive interparental conflict is important because constructive interparental conflict may serve to decrease negative parental emotion socialization as a protective factor or contributor to resiliency processes (Cummings & Davies, 2011). Fourth, the majority of research regarding the impact of interparental conflict on parenting focuses on parenting for school-age children. Previous research suggests that interparental conflict escalates during infancy and toddlerhood (Belsky & Rovine, 1990) although there is a lack of empirical research regarding the relations between interparental conflict and parenting in samples of parents of toddlers. In particular examining parental emotion socialization during early childhood is important because supportive emotion socialization during infancy and toddlerhood predict children's competencies later in preschool and school entry (Spinrad, Stifter, Donelan-McCall, & Turner, 2004). Thus, the current study addresses several gaps by utilizing a dyadic, systems approach to examining associations among mothers' and fathers' interparental conflict and their emotion socialization behaviors to toddlers.

Interparental Conflict and Parental Emotion Socialization

There is a strong rationale to examine interparental conflict in relation to parental

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emotion socialization behaviors. Interparental conflict may be robustly associated with parental emotion socialization because the conflict elicits emotional distress and parents who experience greater stress due to the conflict are less able to be emotionally available to their children (Camisasca et al., 2015; Fabes, Leonard, Kupanoff, & Martin, 2001). Also parents who show aggressive conflict resolution styles, use the silent treatment, or avoid conflictual issues in the relationship with the partner may also show similar behaviors in the relationship with child by aggressively contending with the child's negative emotions or dismissing the children's emotions. Parental emotion socialization has been defined as parental values and behaviors that affect children's socialization regarding emotion understanding, emotional experience, expression of emotion, and regulation of emotion (Eisenberg, Cumberland, & Spinrad, 1998). Although emotion socialization practices reflect a broad range of parenting behaviors, previous research has emphasized parental emotion beliefs and parental responses to children's emotions as primary emotion socialization practices (Eisenberg et al., 1998; Morris, Silk, Steinberg, Myers, & Robinson, 2007). The majority of research on parental emotion socialization has focused on socialization of children's "negative" emotions, such as anger, fear and sadness, than "positive" emotions such as happiness. This is likely because children need more help from parents to handle negative emotions, which is a more developmentally difficult task (Ramsden & Hubbard, 2002).

In reviewing previous studies regarding interparental relationship and parental emotion socialization, Sturge-Apple et al. (Sturge-Apple et al., 2006) found that hostility and withdrawal during interparental conflicts were predictors of parental emotional unavailability. Nelson et al. (2009) found that parents' marital dissatisfaction was negatively associated with their own and their partner's supportive responses to children's expressions of negative emotions. Wong et al.

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(Wong, McElwain, & Halberstadt, 2009) reveal that, for both mothers and fathers, interparental conflict was related to parents' negative self-expressiveness in family. However, these studies did not examine the effect of constructive interparental conflict, including parents' positive resolution of disagreements, but only focused on effect of destructive interparental conflict on parental emotion socialization behaviors. Thus, additional study of the relations between diverse aspects of interparental conflict (e.g., destructive and constructive interparental conflict) and parental emotion socialization would expand our knowledge further. Specifically, in contrast to destructive interparental conflict, young children may learn how to manage their negative emotions in the stressful situation from constructive interparental conflict resolution which affects supportive emotion socialization.

Destructive and Constructive Interparental Conflict

For many years, developmental psychologists focused on only detrimental aspects of interparental conflict on children's development and typically examined conflict only in terms of its frequency of occurrence (Cummings & Cummings, 1988). More current efforts in the field are focused on identifying how interparental conflict is resolved and, importantly, how resolution strategies are related to children's social-emotional outcomes (McCoy et al., 2013). For example, Cummings (1998) categorized interparental conflict into two groups, destructive and constructive conflict. Destructive interparental conflict includes non-verbal aggression (e.g., stonewalling, sulking, withdrawal), verbal hostility (e.g., yelling, verbal threats, anger expressions), physical violence (e.g., throwing, smashing, kicking something), and conflict tactics about child related topics. Destructive interparental conflicts have been associated with children's negative socio-emotional outcomes such as emotion dysregulation (Crockenberg & Langrock, 2001) and children's internalizing and externalizing problems (Zarling et al., 2013).

In contrast, constructive interparental conflict contains positive conflict resolution (e.g., changing the topic rather than continuing fighting, explaining to children how conflicts have been resolved, comforting children by even optimistic explanations of non-resolution of conflict) (Cummings & Davies, 2002). Conflict resolution has been recognized as an important factor buffering the negative effects of destructive conflict on children's socio-emotional development. For example, compromise resolution, an example of a constructive resolution tactic, has been linked with children's greater positive responses to conflict and children's less negative emotional responses including sadness and fear to conflict (Goeke-Morey, Cummings, & Papp, 2007). Du Rocher Schudlich and colleagues (Du Rocher Schudlich, White, Fleischhauer, & Fitzgerald, 2011) also found that infants showed less attention directed toward parental conflict, showed fewer negative emotional reactions, and played more when parents utilized constructive conflict resolution strategies. Thus, even in very young childhood—infancy and toddlerhood— how parents resolve their conflicts provide behavioral models for young children. Moreover, some researchers claim that children have positive effects from the use of constructive conflict resolution tactics, even when the conflict is not fully resolved (Cummings & Davies, 2011; Shifflett-Simpson & Cummings, 1996).

To our knowledge, only two studies to date address effects of both destructive and constructive conflict on general parenting behaviors toward school-age children. Coln et al. (2012) examined how both destructive and constructive conflict contribute to negative parenting (e.g., poor monitoring/supervision, inconsistent discipline, corporal punishment) and psychological control. In this study, destructive conflict negatively predicted negative parenting and psychological control but constructive did not predict negative parenting, psychological control, and even positive parenting. In contrast, McCoy et al. (2013) found effects of

constructive conflict as well as effects of destructive conflict on parenting behavior. In the study, destructive interparental conflict was associated with only paternal inconsistent discipline, whereas constructive interparental conflict was linked to both maternal and paternal warm parenting. McCoy's study lends important support to the view that associations between both destructive and constructive conflict and specific parenting behaviors differ based on parent gender. However, this study provides an opportunity to examine crossover effects between destructive and constructive conflict and parenting behaviors, by averaging maternal and paternal scores of conflicts. Examining both spillover and crossover effects aside from direct relations between destructive and constructive conflict and parental emotion socialization is critical given elucidating dyadic dynamics between mothers and fathers.

Dyadic Relations between Mothers and Fathers

According to family systems theory, a spillover effect reflects an emotional/behavioral transfer within a family member and a crossover effect refers to the transfer of emotions or behaviors between family members (Bolger, DeLongis, Kessler, & Wethington, 1989; White, 1999). While spillover effects have been commonly found in literature concerning associations between interparental relationship and parenting (Krishnakumar & Buehler, 2000), crossover effects are rarely investigated even in studies utilizing self-reports of parental behavior. The associations between interparental conflict and emotion socialization are best understood in the context of interdependent partners. This may be because a parent's distress elicited from interparental conflict can be transmitted to the partner and the transmitted distress then influences the partner's emotion socialization. Indeed, Nelson et al. (Nelson, O'Brien, Blankson, Calkins, & Keane, 2009) hypothesized that the stress experienced by one partner is detrimental to the other partner's emotional interaction with a child. They found that a parent's marital

dissatisfaction was associated with his/her partner's less supportive responses to their children's expressions of negative emotion at trend level significance (i.e., p < .08).

Parent gender may also moderate the spillover effect and crossover effect between interparental conflict and parental emotion socialization. Previous research has revealed that fathers' parenting is more vulnerable to destructive interparental conflict than mothers' parenting (Belsky, 1984; McCoy et al., 2013). For example, McCoy and colleagues (2013) found that fathers' use of inconsistent discipline (e.g., threaten to punish the child and then do not actually punish him/her') was predicted by destructive interparental conflict but mothers' use of inconsistent discipline was not. A possible explanation was that fathers might be less able to differentiate their interparental roles and their parental roles than mothers (McCoy et al., 2013; Thompson & Walker, 1989) because fathers generally face fewer responsibilities and challenges in their caregiving role (Belsky, Youngblade, Rovine, & Volling, 1991; McCoy et al., 2013).

In contrast, mothers may still be able to differentiate their roles even in the presence of destructive interparental conflict because they are socialized as the primary caregiving parent. Even though the importance of the paternal role in families has been emphasized over the years, mothers may still be primarily responsible for day-to-day child care (Wood & Repetti, 2004). Mothers may be more likely to be skilled at managing their emotions by maintaining emotional boundaries between family subsystems due to mothers' perceived responsibility for child care (Pedro, Ribeiro, & Shelton, 2012; Thompson & Walker, 1989). Mothers may be more concerned with helping their children to understand and coping with emotions than fathers, regardless interparental conflict by engaging in more parent–child communications about emotion (Fivush, Brotman, Buckner, & Goodman, 2000). Pedro, Ribeiro, and Shelton (2012) showed that mothers' martial satisfaction was negatively related to fathers' parental rejection of children, such

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as verbal and physical hostility and non-acceptance of children, while fathers' marital satisfaction was not significantly related to mothers' parental rejection. The results supported the role of mothers' marital satisfaction in fathering as "gatekeepers" or "gateopeners" who block or open paternal interactions with their children (Parke, 2002) and verified fathers' susceptibility to crossover effects between interparental relationship and parenting.

In keeping with the fathers' vulnerability to interparental conflict, an alternative explanation is that the paternal parenting role is less clearly defined by social conventions than the maternal parenting role (Cummings, Merrilees, & George, 2010; Cummings, Goeke-Morey, & Raymond, 2004; Doherty, Kouneski, & Erickson, 1998). This may affect father's difficulties compartmentalizing their marital and parental roles and the susceptibility of the paternal role to distress from the conflict with other people. Lastly, the notion that fathers are prone to spread their tension in interparental conflict to other family members due to greater arousal also can be another reason of the fathers' vulnerability to interparental conflict (Almeida, Wethington, & Chandler, 1999). According to (Gottman & Levenson, 1986), fathers showed greater psychological arousal to interparental tensions and more slowly recovered than mothers.

The Current Study

As noted, examining these relationships in parents of toddlers will contribute important information to the current literature. Toddlers may be susceptible to the impact of interparental conflict on parental emotion socialization because interparental conflict increases during toddlerhood (Belsky & Rovine, 1990) and negative parental emotion socialization may increase as toddler begin to assert their autonomy and develop behavior problems (Brownell & Kopp, 2010; Campbell, 2006). Thus, our primary goal in this study was to examine how destructive interparental conflict and constructive interparental conflict are related to parental emotion

socialization of toddlers. We examined the spillover (a and b) and crossover (c and d) hypotheses: (a) greater destructive interparental conflict is linked with higher levels of each parent's own negative emotion socialization; (b) greater constructive interparental conflict is linked with lower levels of each parent's own negative emotion socialization; (c) greater destructive interparental conflict is linked with higher levels of partners' negative emotion socialization; (d) greater constructive interparental conflict is linked with lower levels of partners' negative emotion socialization. We also tested for parent gender differences in the link between destructive and constructive interparental conflict and negative parental emotion socialization.

Method

Participants

Participants were 166 parents (83 mother-father dyads) who had 24 to 36 months old children and resided in a semi-urban area in a midwestern state. Participants ranged in age from 23 to 52 years, and the mean ages of fathers and mothers were 34.45 (SD = 5.34) and 32.59 (SD = 4.72) years, respectively. With respect to cohabitation status, most couples reported living together (96.4 %, n = 80 dyads). In the sample, children of participants were, on average, 29.56 months old (SD = 4.34). Of those children, 50.6 % (n = 41) were girls. 62.20 % families (n = 51) had annual family incomes more than $55,000/year. The majority of fathers were White (67.5 %, n = 56), followed by Black (12 %), Asian (8.4 %), Latino (6 %), other (4.8 %) and multiracial group (1.2 %). All fathers had completed high school or above (n = 83) and only 3.7 % of fathers were not employed (n = 3). Mothers were primarily White (67.5 %, n = 56), Black (10.8 %), Asian (9.6 %), multiracial (6 %), Latino (4.8 %) and other groups (1.2 %). All mothers had completed high school or above (n = 83) and 24.1 % of mothers were not employed

($n = 20$).

Procedure

Mothers and fathers visited the laboratory of a university for a one-time interview, as part of a larger study (Blinded). Parents were fully informed about general purposes and the procedures of the study both orally and in writing. Parents completed the informed consent form at the beginning of the visit. Mothers and fathers were interviewed separately. Each interview session generally lasted one-and-a-half hours to two hours.

Measures

Destructive and constructive interparental conflict. Both mothers and fathers completed the Conflicts and Problem-Solving Scales (CPS; Kerig, 1996). Destructive interparental conflict was measured using the destructive interparental conflict strategy subscales. Four subscales used in the current study were as follows: (a) verbal aggression (8 items)—the tendency to threaten or inflict harm on a partner in a verbal manner (e.g., yelling, accusing, insulting); (b) stalemate/ stonewall (7 items)—the impasse in attempting to resolve conflicts which occurred (e.g., crying, giving the silent-treatment, withdrawing love, seeking the counsel of friends and family to support one's own point of view); (c) avoidance-capitulation (10 items)—the tendency to avoid conflicts or give up in conflicts (e.g., trying to smooth things over, giving in to partner's point of view to escape argument, trying to ignore problem and avoid talking about it); (d) child involvement (5 items)—the degree to which children are involved in the conflict (e.g., arguing in front of children, involving the children in the argument, arguing when children might be able to overhear). All items of destructive interparental conflict strategy subscales were rated using a 4-point scale ranging from 0 (*never*) to 3 (*often*). All items of destructive interparental conflict strategy subscales were averaged to form a composite score.

Internal reliability (Cronbach's alpha) for destructive interparental conflict aggregate was .85 for mothers and .83 for fathers.

Constructive interparental conflict was measured using the resolution subscale. Although previous research included the cooperation subscale as well as the resolution subscale (McCoy et al., 2013), we did not use the cooperation subscale due to the low reliability of the cooperation subscale in the current study sample. The resolution scale consists of 13 items measuring the frequency of positive resolution, negative resolution, and unclear resolution. The frequency of positive resolution subscale has 3 items, including "We feel that we've resolved it, or come to an understanding" and "We feel closer to one another than before the fight." The frequency of negative resolution subscale has 8 items, including "We end up feeling angry and annoyed with one another" and "We feel worse about on another than before the fight." The frequency of unclear resolution subscale has 2 items, including "We don't resolve the issue, but agree to disagree" and "We each give in a little bit to the other." All items of resolution scale are rated on 4-point scale ranging from 0 (*never*) to 3 (*usually*). Resolution subscale scores for positive resolution, negative resolution, unclear resolution are weighted according to the resolution quality (explanation following), per the scoring manual (Kerig, 1996). The scores of the positive resolutions were multiplied by a weight of two. The scores of the negative resolutions were multiplied by a weight of negative two. The scores of the unclear resolutions were multiplied by a weight of one. These scores were summed to create a composite score. Thus, the composite score for the resolution scale ranged from -48 to 24. Higher scores indicated that positive emotions dominated the conflict resolution and lower scores indicated that negative emotions dominated the conflict resolution. After reverse scoring the negative resolution variables, internal reliability (Cronbach's alpha) in the current sample was .79 for mothers and .83 for

fathers.

Parental emotion socialization. In order to combine two different scoring scales to reflect overall parental emotion socialization, Z scores were used. The emotion-dismissing Z score of the Emotional Styles Questionnaire (ESQ) and the unsupportive responses Z score of the Coping with Toddlers' Negative Emotion Scale (CTNES) were summed to form a larger composite of negative parental emotion socialization.

Parental emotion beliefs. Both mothers and fathers filled out the Emotional Styles Questionnaire (ESQ; Lagacé-Séguin & Coplan, 2005). This questionnaire consists of total 14 items measuring maternal and paternal ideas about children's expressions of emotions and parent's goals in interacting with children when expressing negative emotions, using a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The emotion-dismissing subscale consisted of 4 items (e.g., "Sadness is something that one has to get over with, to ride out, and not to dwell on," "I try to change my child's angry mood into a cheerful one," "Childhood is a happy-go-lucky time, not a time to feel sad or angry"). The emotion-dismissing subscale items were averaged and higher scores reflected greater emotion-dismissing beliefs. Cronbach's alpha in the current sample was .70 for mothers and .69 for fathers.

Parental responses to toddler negative emotions. The Coping with Toddlers' Negative Emotion Scale (CTNES; (Spinrad, Eisenberg, Kupfer, Gaertner, & Michalik, 2004) is a self-report measure in which mothers and fathers respond to their toddlers' negative emotional expression in 12 hypothetical situations (e.g., "if my toddler spilled something on the floor, and started crying, I would:…"). For each situation, parents indicate how they would be to react in each of seven different types of responses on a 7-point scale, ranging from 1 (*I would do not this*) to 7 (*I would do this*). Although two larger subscales (supportive and unsupportive response

scales) were created based on previous research (Spinrad et al., 2007), only the unsupportive response scale used in the current study. The unsupportive response subscales include the following: (a) minimization reactions (12 items)—the degree to which parents minimize the seriousness of the situation or devalue the child's problem or distressed reaction (e.g., "Tell my child that he/she is making a big deal out of nothing"); (b) punitive reactions (12 items)—the degree to which parents respond with punitive reactions that decrease their exposure or need to deal with the negative emotions of their children (e.g., "Tell my child that if he/she doesn't stop crying, we won't do something fun when he/she wakes up"). The scores of minimization reactions and punitive reactions subscales were averaged to create unsupportive response scale. Although two larger subscales (supportive and unsupportive response scales) were created based on previous research (Spinrad et al., 2007), only the unsupportive response scale used in the current study. Cronbach's alpha in the current sample for unsupportive aggregates was .90 mothers and .84 for fathers.

Covariates. Family income was included as a covariate in all models because extensive previous research regarding interparental conflict or parental emotion socialization considered family income as an important control variable (Cassano, Perry-Parrish, & Zeman, 2007; Nelson et al., 2009) and it was correlated with primary study variables in the current pairwise data set.

Data Analysis Plan

The relations between destructive and constructive interparental conflict and parental emotion socialization were examined using the Actor-Partner Interdependence Model (APIM; Kenny, Kashy, & Cook, 2006). Socialization researchers have focused some attention on the roles of fathers as well as the roles of mothers (Amato, Meyers, & Emery, 2009; Lamb, 2012). However, most studies have ignored the interdependent relationship between mother and father

ratings by averaging or summing the mother- and father scores. The APIM (Kenny et al., 2006) has been suggested to improve the limitations of research method. In APIM, the parent dyad rather than individual parent is treated as the unit of analysis so that the effects within and between parents can be examined. Two key components in the APIM are actor effects, which refer to the association of a parent's own predictor variables with his or her outcome variables, and partner effects, which refer to the association of a partner's predictor variables with one parent's outcome variables. Both actor effects and partner effects can be compared for both mothers and fathers and diverse combinations of actor and partner effects can be examined. The spillover hypotheses can be tested by actor effects, while crossover hypotheses can be tested by partner effects. In this study, the APIM allowed us to determine whether destructive interparental conflict or constructive interparental conflict had an effect not only on his or her negative emotion socialization but also on his or her partner's negative emotion socialization (See Figure 1, conceptual model).
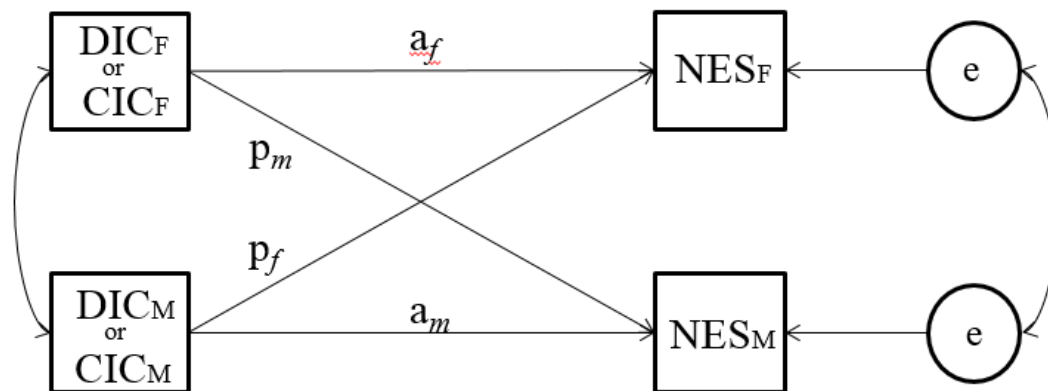
Figure 1. Conceptual model (Actor-partner interdependence model). DIC = Destructive Interparental Conflict, CIC = Constructive Interparental Conflict, NES = Negative Emotion Socialization, a = actor effect, p = partner effect. Subscripts of variables denote whether the variable belongs to the father (F) or the mother (M).

We conducted the multilevel modeling (MLM) analyses in SPSS version 23 to examine

hypotheses. According to recommended practices for employ in APIM in an MLM format (Kenny et al., 2006), data were organized for dyadic analyses in pairwise structure, such that each parent data row contained the parent's scores for each variable as well as the scores for the partner on each variable. All continuous predictor variables were centered by subtracting the grand mean. Categorical predictors were coded 1 and -1. For all models, the within-dyad variable was parent gender and the dependent variable was be the actor's score on negative parental emotion socialization.

As the first step of all model, the Omnibus Test of Distinguishability was used to examine whether dyad members are distinguishable (Kenny et al., 2006). Although heterosexual parents are conceptually distinguishable, they may not be empirically distinguishable. Specifically, mothers and fathers are empirically indistinguishable when for each study variable, the means and the variances for mothers and fathers do not differ significantly, and when for each pair of study variables, both the intrapersonal and the interpersonal correlations do not differ significantly. Even though there are statistical mean differences in the study variable, mothers and fathers still can be treated as indistinguishable if variances and correlations do not differ significantly. In this case, the mean differences should be controlled for in subsequent analyses (Hahn & Dormann, 2013).

Results

Means and standard deviations of variables are presented in Table 1. Paired t tests indicated that mean differences of destructive and constructive interparental conflict between mothers and fathers were not statistically significant, $t(82) = 1.06$, $p = .293$, and $t(81) = 0.55$, $p = .584$. Mothers had significantly lower mean ratings than fathers for unsupportive responses to child's negative emotions and emotion dismissing, $t(82) = -3.40$, $p = .001$, and $t(82) = -2.47$, p

= .016. Table 1 also shows bivariate correlations for mothers (below the diagonal), for fathers

(above the diagonal), and between mothers and fathers (on the diagonal). The between-parents

correlation was relatively high for negative parental emotion socialization (r = .52). In contrast,

the between-parents correlations were relatively moderate with regard to destructive interparental

conflict (r = .36).

Table 1. *Descriptive Statistics and Correlations for Study Variables*

	1	2	3	4	5
1. Destructive interparental conflict	.36**	-.66**	.16	.23*	.05
2. Constructive interparental conflict	-.59**	.46**	.10	-.03	.19
3. Negative emotion socialization	.33**	-.24*	.52**	.85**	.85**
4. CTNES unsupportive responses	.33**	-.22*	.84**	.41**	.44**
5. ESQ emotion dismissing	.21	-.17	.84**	.39**	.50**
Fathers *M* (SD)	1.17 (0.32)	7.98 (10.31)	0.00 (1.69)	3.23 (0.80)	3.88 (0.68)
Min/ Max	0.40/ 1.83	-18/ 24	-4.23/ 4.79	1.46/ 5.75	1.50/ 5
Mothers *M* (SD)	1.22 (0.34)	8.72 (8.86)	0.00 (1.67)	2.86 (1.00)	3.68 (0.75)
Min/ Max	0.37/ 2.37	-21/ 22	-3.61/ 3.07	1.04/ 5.42	1.75/ 5

Note. Correlations between variables for mothers are below the diagonal. Correlations between
variables for fathers are above the diagonal, and correlations between variables for mothers and
fathers are on the diagonal.
*p < .05, **p < .01, ***p < .001

Destructive Interparental Conflict

Gender difference for actor and partner effects. Following the same format as the

model of destructive interparental conflict, we first utilized the maximum likelihood estimation

to test whether parent gender should be treated as a distinguishing factor in the analyses. This

test resulted in a χ^2 (1) = 0.002, p = .964, showing that the constraints for variances and

correlations required for an indistinguishable model significantly improved model fit relative to

the model that treated gender as a distinguishing variable. Thus, the following analyses treated

parents as indistinguishable, even though parents were heterosexual couples and conceptually

distinguishable. Specifically, as mothers and fathers only differed in the means of the study

variables (See Table 2) while there were no differences in variances and correlations, we decided

to treat mothers and fathers as indistinguishable and control for parent gender in the subsequent

analysis to take the mean differences into account.

Actor and partner effects. As shown in Table 2 and Figure 2, results for the analysis

predicting negative parental emotion socialization showed that only the actor effect was

statistically significant ($\beta = 0.81$, $p = .036$) and the partner effect was not statistically significant

($\beta = 0.26$, $p = .505$). The actor effect suggested that for every one unit increased in a parent's

own destructive interparental conflict, the parent's negative emotion socialization was predicted

to increase by 0.81 points. Taken together, the model explained approximately 11 % of the

variance in negative parental emotion socialization (Pseudo $R^2 = 0.11$, χ^2 (3) = 13.99, $p = .002$).

Table 2. *Relations between Destructive Conflict and Negative Parental Emotion Socialization*

Variable	Negative parental emotion socialization		
	b	β	t (*df*)
Intercept	-0.30	-0.18	-0.20 (79)
Income	-0.13	-0.22	-2.27* (79)
Parent gender Actor	0.01	0.01	0.13 (80)
Destructive interparental conflict Actor	0.81	0.16	2.11*(153)
Destructive interparental conflict Partner	0.26	0.05	0.67 (153)
Pseudo-Rsqared	1-(2.44/2.75)=0.11		
Testing pseudo-Rsqared	χ2 (3) = 607.49-593.50=13.99, *p* = .002		
-2 Log likelihood	602.77		
Omnibus test of distinguishability	χ2 (1) = 0.002, *p* = .964		

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

Figure 2. APIM for destructive interparental conflict and negative parental emotion socialization. DIC = Destructive Interparental Conflict, NES = Negative Emotion Socialization. Subscripts of variables denote whether the variable belongs to the father (F) or the mother (M). *p* < .05.

Constructive Interparental Conflict

  Gender difference for actor and partner effects. As a first step in the analysis, maximum likelihood estimation was used to test whether parent gender should be treated as a distinguishing factor in the analyses. This test resulted in a $\chi2$ (1) = 0.062, *p* = .803, showing that the constraints for variances and correlations required for an indistinguishable model significantly improved model fit relative to the model that treated gender as a distinguishing variable. Thus, the following analyses treated parents as indistinguishable, even though parents were heterosexual couples and conceptually distinguishable. Specifically, as mothers and fathers only differed in the means of the study variables (See Table 3) while there were no differences in variances and correlations, we decided to treat mothers and fathers as indistinguishable and control for parent gender in the subsequent analysis to take the mean differences into account.

  Actor and partner effects. As can be seen in Table 3 and Figure 3, results for the analysis predicting negative parental emotion socialization indicated that only the partner effect was marginally significant (β = -0.02, *p* = .085) and actor effect was not statistically significant (β = 0.00, *p* = .883). The partner effect implied that for every one unit increased in one's

partner's constructive interparental conflict (e.g., positive conflict resolution), the person's

negative emotion socialization was predicted to decrease by 0.02 points. Taken together, the

model explained approximately 10 % of the variance in negative parental emotion socialization

(Pseudo R^2 = 0.10, χ^2 (3) = 12.59, p = .803).

Table 3. *Relations between Constructive Conflict and Negative Parental Emotion Socialization*

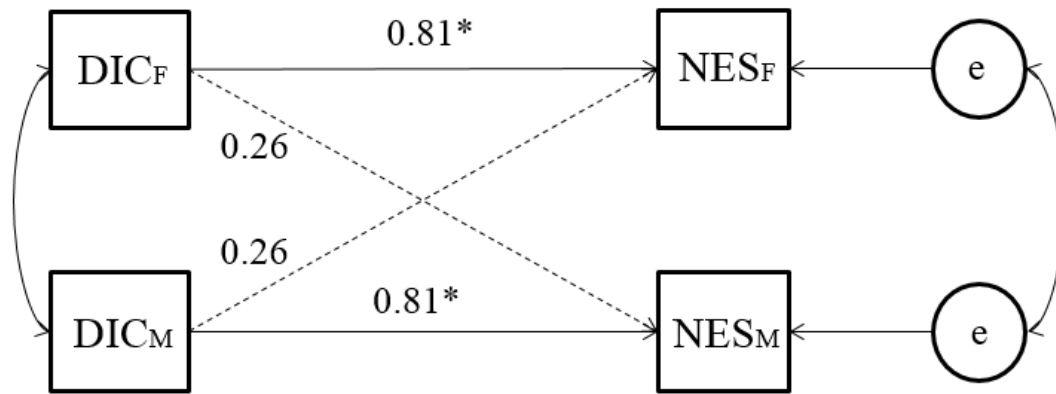| Variable	Negative parental emotion socialization		
	b	β	t (df)
Intercept	-0.02	-0.01	-1.08 (78)
Income	-0.16	-0.28	-3.07* (78)
Parent gender$_{Actor}$	0.00	0.00	-0.02 (79)
Constructive interparental conflict$_{Actor}$	0.00	0.01	0.15 (157)
Constructive interparental conflict$_{Partner}$	-0.02	-0.13	-1.74† (157)
Pseudo-Rsqared	1-(2.48/2.75)=0.10		
Testing pseudo-Rsqared	χ^2 (3) = 600.09-587.50=12.59, p = 0.001		
-2 Log likelihood	610.17		
Omnibus test of distinguishability	χ^2 (1) = 0.062, p = .803		

*p < .05, **p < .01, ***p < .001
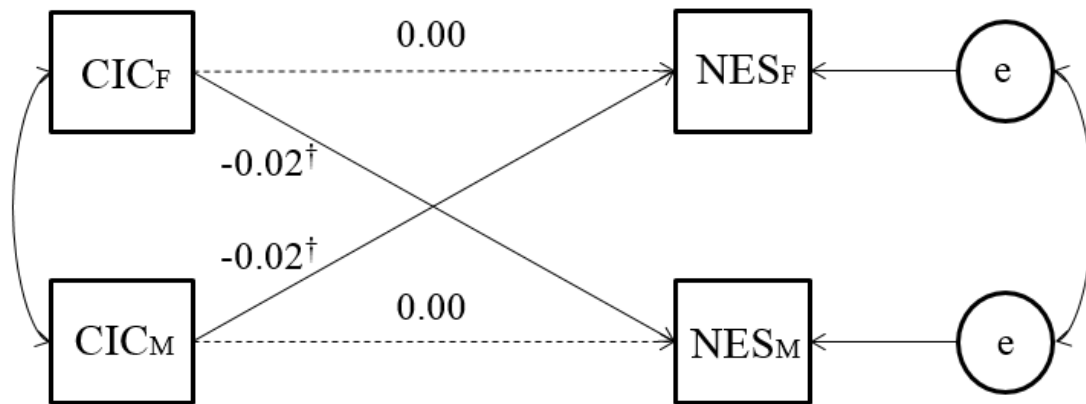
Figure 3. APIM for constructive interparental conflict and negative parental emotion
socialization. CIC = Constructive Interparental Conflict, NES = Negative Emotion Socialization.
Subscripts of variables denote whether the variable belongs to the father (F) or the mother (M).
†p < .10.

Discussion

The primary aim of this study was to explore spillover and crossover effects through

which destructive and constructive interparental conflict, respectively, affect parental emotion

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socialization. Most previous research has considered detrimental aspects of interparental conflict only (Sturge-Apple et al., 2006; Wong, McElwain, & Halberstadt, 2009) or have examined only mothers' perceptions of interparental conflict (Coln et al., 2012). In response to calls to examine relations between destructive and constructive interparental conflict and parenting for mothers vs. fathers (McCoy et al., 2013), we examined the effects of both destructive and constructive interparental conflicts within and between mothers and fathers.

Destructive Interparental Conflict and Parental Emotion Socialization

This study found evidence for the spillover effect, in that destructive interparental conflict impacted negative parental emotion socialization for both mothers and fathers. The results of the APIM revealed significant actor effects as well, meaning that parents who reported more destructive interparental conflicts showed greater negative emotion socialization (e.g., unsupportive responses to their children's negative emotions, emotional dismissing). These findings are consistent with previous research in which parents engaging in more destructive interaction show more emotional unavailability (Sturge-Apple et al., 2006). This is not surprising, given that negative emotions or tensions emerged from destructive conflict may be transmitted to parental behaviors articulated as unsupportiveness or emotion dismissing behaviors in response to children's expression of negative emotions. Anger or anxiety from destructive conflict may have parents respond unsupportively to children's negative emotions. Further, parents who ignore marital problem and avoid to deals with conflict issue may also tend to ignore children's negative emotions and not try to explore children's emotions.

For mothers and fathers, however, there was no evidence to support the crossover effect, in that destructive interparental conflicts were associated with partners' greater negative emotion socialization. In other words, the results of the APIM did not show significant partner effects

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between destructive conflict and negative emotion socialization. The stress from the destructive conflict may not affect partner's negative emotion socialization but affect only their own negative emotion socialization. In the context of destructive conflict, parents may not be able to read and attend to partners' emotions because parents may lose their control on emotion with greater stress. Thus, such negative emotions of destructive conflict may only affect their own unsupportive responses to children's negative emotions and emotional dismissing. However, the parent reports of emotion socialization used in this study may differ from observed behavior. Thus, observational measures may have contributed to different study results.

Constructive Interparental Conflict and Parental Emotion Socialization

Interestingly, for both mothers and fathers, no evidence emerged for the spillover hypothesis, as the actor effects between constructive interparental conflict and negative parental emotion socialization was not significant in the APIM (See Figure 3). In other words, a parent's constructive interparental conflict was not related to his/her own emotion socialization. It may be because effects of constructive interparental conflict were much weaker compared to the effects of destructive interparental conflict on parental emotion socialization. Parents using constructive conflict resolution tactics (e.g., listening to partners' point of view) in couple relations just might not use negative emotion socialization practices. In the current study, we only used negative emotion socialization as an outcome but future research could use positive emotion socialization such as supportive responsiveness or emotion coaching as well.

For mothers and fathers, findings also provided some trend-level support for the crossover hypothesis, in that constructive interparental conflicts was associated with lower levels of partners' negative emotion socialization. The results of the APIM revealed marginally significant partner effects, meaning that partners of parents who reported more constructive

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interparental conflicts were less likely to show unsupportive responses to their children's

negative emotion and less emotional dismissing. These findings were somewhat similar to those

indicated in research by Ponnet and colleagues (2013). The authors found partner effects but not

actor effects between positive aspects of marital relationship and responsive parenting styles. As

suggested by Ponnet and colleagues (2013), parents might overlook in their own feelings of

constructive conflict but this does not suggest that they overlook partners' feelings of

constructive conflict. An alternative explanation is that the partner's emotion may have stronger

effects on the other person's emotion socialization than his/her own emotion, as long as one can

manage his/her emotion with less stress as might be expected when constructive interparental

conflict resolution occurs.

Indistinguishable Parents

Finally, contrary to our expectations, mothers and fathers are indistinguishable dyads in

the current study. The two APIM models predicted by destructive and constructive interparental

conflicts did not show parent gender differences. In other words, the findings were inconsistent

with our hypothesis in which the emotion socialization of fathers were expected to be more

vulnerable to interparental conflict than the emotion socialization practices of mothers. In

contrast to our findings, Stapleton and Bradbury (2012) found that, only for fathers, negativity in

the interparental interaction was related to their own hostility to children but the negativity was

not linked to their partner's hostility to children. They also revealed that fathers' constructive

behaviors in the interparental interaction were related to mothers' supportive behaviors to

children but not vice versa. No gender difference in our findings may be due to greater maternal

work hours compared to those of previous research. In our sample, 66.2 % mothers were

employed and 9.6 % mothers were students. Like fathers, working mothers may be less able to

differentiate their interparental roles and their parental roles than the full-time mothers (McCoy et al., 2013; Thompson & Walker, 1989) because working mothers face a finite amount of time and energy in their caregiving roles (Belsky, Youngblade, Rovine, & Volling, 1991; McCoy et al., 2013). Thus, both mothers and fathers in this study might have vulnerability to the spillover and crossover effect between interparental conflict and parental emotion socialization.

Limitations

This study has several limitations to consider in interpreting the results. First, participants of this study were mostly white, married parents with high levels of education. Thus, the lack of minority, unmarried, and low-educated parents may limit generalization of findings. Second, the use of parents' self-report for interparental conflicts as well as parental emotion socialization may reflect a response bias from participants. Third, this cross-sectional design may have limited capability to examine causal relations between predictors and outcomes. Moreover, the small sample size may preclude detecting more statistical significance of partner effects between constructive interparental conflict and parental emotion socialization. Future studies would benefit from larger sample with diverse demographic characteristics, observational methods, and longitudinal design. Finally, this study focuses on the interdependent relationship of mother's and fathers' behaviors and emotions in the link between interparental conflict and emotion socialization. Although beyond the scope of this study, it is likely that patterns of behaviors between parents and between all family members create unique metacontingencies that may not be fully captured in a primary focus on interdependence between mothers and fathers (Glenn, 1991). This will be addressed in future work.

Conclusions

Despite the limitations above, our study advances the literature by examining both

destructive and constructive interparental conflict effects on parental emotion socialization and considering interdependent relations between mothers and fathers. In the study, the trend level effects of crossover effect were found between constructive interparental conflict and parental emotion socialization, while the spillover effect existed between destructive interparental conflict and parental emotion socialization. In order to make effects of constructive conflict stronger, future research needs to examine effects of destructive and constructive conflict on positive parental emotion socialization as well as negative emotion socialization. Practical implications of our findings suggest advantages of preventive interventions involving both parents, as improving one parent's constructive conflict tactics and supportive emotion socialization may not allow for substantial change within another unsupportive parent. Continued examination of parents' dynamics in the relation between the interparental conflict and emotion socialization will continue to be beneficial, beyond traditional approach.

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CHAPTER 3 (STUDY 2)

CHILDREN'S EMOTIONAL SECURITY AS A MEDIATOR OF THE LINK BETWEEN INTERPARENTAL CONFLICT AND CHILDREN'S BEHAVIOR PROBLEM

Abstract

This study examined children's emotional security as a mediator of the association between destructive and constructive interparental conflict and children's behavior problem ($N = 166$ parents; 83 mother-father dyads). Both mothers and fathers completed self-report measures of destructive and constructive interparental conflict, children's emotional security, and children's behavior problem. Tests of actor–partner interdependence mediation models (APIMeM) were conducted to examine whether actor or partner effects of interparental conflict on children's behavior problem were mediated by actor's (one's own) or partner's perception of children's emotional security. In the current study, actor effects referred to the association of a parent's own predictor variables with his or her outcome variables, and partner effects referred to the association of a partner's predictor variables with one parent's outcome variables. For both mothers and fathers, actor and partner effects of destructive conflict on children's behavior problems were mediated through children's emotional security. For mothers only, actor effects of constructive conflict on children's behavior problems occurred through the actor mediator (emotional security), and partner effects of constructive conflict on children's behavior problems occurred through the partner mediator (emotional security). These findings highlight importance of emotional security as a mechanism for how interparental conflict impacts children's behavior problem and importance of interdependence of these relations in parent dyads.

Introduction

Empirical studies have shown the role of emotional security as a mediator between interparental conflict and the children's behavior problems (Cummings, George, McCoy, & Davies, 2012; Cummings, Schermerhorn, Davies, Goeke-Morey, & Cummings, 2006; Harold, Shelton, Goeke-Morey, & Cummings, 2004). In accordance with Emotional Security Theory (EST; Davies & Cummings, 1994), preserving emotional security is a primary goal for children in family contexts, even in the face of family stressful situations such as interparental conflict. According to EST, destructive interparental conflicts undermine children's emotional security. In turn, less emotional security increases children's vulnerability to behavior problems by signaling a decrease of parents' ability to manage marital discord and to maintain family stability. In contrast, children who have observed constructive interparental conflicts show relatively high levels of emotional security even in times of stress. Children with greater emotional security show fewer behavior problems because they believe such challenging conflicts can be effectively resolved by parents (Cummings & Davies, 2011). However, the majority of past studies, which used parental reports to assess children's emotional security and behavior problems, have not fully utilized a family systems perspective. Most studies have failed to recognize the bidirectional interplay of interparental conflict between mothers and fathers (Cummings et al., 2012; McCoy, Cummings, & Davies, 2009). Examining interdependent relationship of destructive and constructive conflict behavior between mothers and fathers is important because mothers and fathers may synergistically or differently contribute to each other's conflict behavior and perceptions of child emotions and behaviors (Cheung, Cummings, Zhang, & Davies, 2015; Cui, Conger, & Lorenz, 2005; Kurdek, 1995). Thus the main goal of this study was to test how mothers and fathers having destructive or constructive conflicts each contribute uniquely to their

own or partner's perceptions of children's emotional security and behavior problems.

Theoretical Framework for Understanding Associations among Interparental Conflict, Children's Emotional Security, and Behavior Problems

Developmental psychologists have revealed impacts of interparental conflicts on child development. Destructive conflicts have been associated with children's negative socio-emotional outcomes. For example, interparental physical aggression was linked with children's emotion dysregulation (Crockenberg & Langrock, 2001) and behavior problems (Bergman, Cummings, & Davies, 2014). Interestingly, children's outcomes for observing interparental verbal aggression (e.g., insult, swear) have been similar to children's outcomes for children observing marital physical violence (e.g., push, grab, and shove). Interparental verbal aggression elicited children's adjustment problems (Davies et al., 2002) and children's distress (Cummings, Ballard, El-Sheikh, & Lake, 1991). In addition to overt aggression, non-verbal aggression also has been related to children's socio-emotional difficulties. Husbands' non-verbal aggression such as withdrawal was linked with children's adjustment problems (Katz & Gottman, 1996). Children were distressed by the "silent treatment" between parent, which is a behavior of covert conflict (Ballard & Cummings, 1990; Reiter & El-Sheikh, 1999) and parents' non-verbal expression of fear in conflict engendered the most negative responses from children (De Arth-Pendley & Cummings, 2002). In contrast to destructive conflict, constructive conflicts have been recognized as an important factor buffering the negative effects of destructive conflict on children's socio-emotional development. For example, Cummings et al. (1991) found that constructive conflict resolution ameliorated children's negative emotional responses to conflicts (e.g., anger, sadness, fear). Maternal and paternal apology resolution also moderated the negative effects of destructive conflict on children's responses to conflict ending (Goeke-Morey,

Cummings, & Papp, 2007). Further, some researchers claim that children have positive effects from any progress toward conflict resolution even when the conflict is not fully resolved because emotional and informational contents of conflict resolution indicates issues of conflict have been worked out (Cummings & Davies, 2011; Shifflett-Simpson & Cummings, 1996). These findings are in line with the results of Du Rocher Schudlich et al. (Du Rocher Schudlich, White, Fleischhauer, & Fitzgerald, 2011) in which the infants showed fewer negative emotional reactions and much exploration of environment and playing with toys during a constructive conflict situation.

EST postulates children's emotional security is a key component to mediate associations between interparental conflict and child development (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969; Cummings & Davies, 2011). EST suggests that children's abilities to perceive parents as sources of emotional security are important to children's socio-emotional development (Ainsworth, 1979; Bowlby, 1969). Generally, children's emotional security is threatened by exposure to destructive conflict, whereas constructive conflict promoted children's emotional security by improving children's confidence that parents can handle their difficulties and maintain family stability (Cheung et al., 2015; Cummings & Davies, 2011). Traditionally EST has been studied with school age children. For example, Cummings, Goeke-Morey and Papp (2003) delineated how specific forms of destructive and constructive conflicts elicit different aspects of school-age children's and adolescent's emotional security. Findings indicated that tactics of destructive conflict (e.g., threat, personal insult, defensiveness, and marital withdrawal) were linked with children's negative emotionality. Tactics of constructive conflict (e.g., calm discussion, positive resolution of the disagreement) were associated with children's positive emotionality. These results are consistent with the notion that different forms of interparental

conflict activate children's specific emotional response systems in the service of regulating

emotional security. Koss et al. (2011) provided additional evidence of the differential effects of

destructive and constructive conflict on school-age children's emotional security. Results showed

that children typically had more negative and distressing feelings in destructive conflict

compared with constructive conflict depicting resolution. However, emotional security is a

highly salient concept when studying toddlers as well. When toddlers are exposed to destructive

interparental conflict, they manage their exposure to conflicts in various ways, including overt

emotional reactivity, behavioral dysregulation, and overt avoidance (Cummings & Davies, 2011).

In contrast, when toddlers are exposed to positive conflict resolution, they observe parental

modeling of emotional and behavioral regulation, which contribute to children's own social-

emotional competencies.

Interdependent Relations between Mothers' and Fathers' Perceptions of Conflict

Although most past studies have reflected both mothers' and fathers' reports of children's

emotional security, relatively few studies have considered interdependent relations between

mothers and fathers (Cummings et al., 2012a, 2006; Kathleen McCoy, Cummings, & Davies,

2009). As family systems theory highlights reciprocal dynamics between family members (Cox

& Paley, 1997; Minuchin, 1974), interdependence of interparental conflict between mothers and

fathers is important in the literature of emotional security. Family systems theory suggests that

mothers and fathers are interdependent and emotionally connected to one another (Cox & Paley,

1997). One parent's emotions and behaviors in a certain context trigger reciprocal changes in

emotions and behaviors of partner (crossover effect) as well as changes of his/her own emotions

and behaviors in another context (spillover effect) (Bakker & Demerouti, 2013). Indeed, Kurdek

(1995) revealed that both parents' conflict resolution tactics synergistically impacted to each

partner's marital satisfaction. Cui and Donnellan (2009) also found that trajectories of marital satisfaction were tightly interconnected across mother-father dyads.

Recently Cheung et al. (2015) examined how marital partners predicted each other's interparental conflict and how both mothers' and fathers' conflict predicted adolescent emotional security over time. In the study, one parent's destructive conflict behaviors interrelated with his/her partner's destructive conflict behaviors, indicating transactional predictions between mothers and fathers. Both maternal and paternal destructive conflict behaviors also predicted lower adolescent emotional security over time. Although mothers' and fathers' reports were used to assess their destructive and constructive conflict and child emotional security , the study leave room for questions as to how mothers' and fathers' destructive and constructive conflict are interrelated with mothers' and fathers' perceptions of emotional security. According to family systems theory, spillover and crossover pathways between mothers and fathers should be considered to fully understand effects of interparental conflict on child outcomes (Cox & Paley, 1997; Nelson, O'Brien, Calkins, & Keane, 2013). Thus it is still necessary to examine the interplay of mothers' and fathers' perceptions of children's emotional security in the relation between interparental conflict and child behavior problem.

Children's Emotional Security as a Mediator in the Link between Interparental Conflict and Children's Behavior Problems

Past studies revealed mediation effects of children's emotional security in the relation between interparental conflict and children's behavior problems even though they did not consider interdependent dynamics between mothers and fathers. Harold et al. (2004) examined the role of emotional security as a mediator between interparental conflict and the school-age children's behavior problems. Findings showed that children's emotional security about

interparental conflict mediated the relation between destructive conflict and children's security about parenting which affects children's internalizing and externalizing behaviors measured a year later. Cummings, Schermerhorn, Davies, Goeke-Morey, and Cummings (Cummings et al., 2006) provided another longitudinal examination of emotional security theory by assessing kindergarten children's (aged 5-7) internalizing and externalizing problems following the initial assessment of marital discord and emotional security. Findings showed that marital discord was linked with child emotional insecurity a year later. In turn, the emotional insecurity was linked with children's internalizing and externalizing problems a year later even after controlling earlier levels of child adjustment. These results support the importance of indirect pathways in which marital discord is associated with children's internalizing and externalizing via children's emotional insecurity.

Considering findings that most couples engage in both destructive and constructive marital conflict during daily life (Cummings et al., 2003), McCoy and colleagues (McCoy, Cummings, & Davies, 2009) used a three-wave longitudinal approach to examine elementary school-age children's emotional security as a mediator between both destructive and constructive conflict and children's prosocial behavior. Findings indicated that emotional security at Time 2 mediated the association between both destructive and constructive conflict at Time 1 and children's prosocial behaviors at Time 3. Interestingly constructive conflict was positively associated with children's emotional security and increases in positive aspects of children's socio-emotional behaviors, rather than simply diminishing negative responses or risks for adjustment problems. This result suggests that witnessing constructive conflict may positively influence children's regulatory systems related to responding to interparental conflict, including increasing emotional security. In turn, children may learn how to handle their own conflicts with

others through the well-regulated systems responding to interparental conflict when children observe constructive conflict (Cummings & Davies, 2011).

Interestingly, most the existing research concerning children's emotional security as a mediator in the association between conflict and child behavior problems used parental reports to assess child emotional security and behavioral outcomes. To a great extent, parents are likely the most obvious reporters of children's emotional security and behavior in the home. The existing literature, however, does not focused on young children in toddlerhood. Examining toddlers' emotional security and behavior problems in the context of interparental conflict is important because parents' relations are most conflictual and disharmonious during early child rearing years (Belsky & Pensky, 1988; Belsky & Rovine, 1990). Thus, it is an opportune time to examine the effects of conflict on toddlers' emotional security both in terms of empirical interests and in order to better inform and guide parenting education programs and interventions as early as possible in early childhood.

The Current Study

The current study examined mediation effects of children's emotional security on the link between destructive and constructive conflict and children's behavior problem, considering interdependent relations between mothers and fathers. This study addresses several gaps in the field. First, little empirical research has been carried out with parents of toddlers (e.g., McCoy et al., 2009). Toddlerhood, itself, is a critical time in the foundations of later social-emotional skills. As such, risks to emotion security and subsequent behaviors may hinder growth in autonomy (Forman, 2007), socio-emotional competencies (Brownell & Kopp, 2010; Raikes, Robinson, Bradley, Raikes, & Ayoub, 2007), and prosocial development (Hay & Cook, 2007). If toddlers and young preschoolers have difficulties with emotional security, they may be at higher

risk for less optimal socio-emotional development than older children (Cummings, Vogel, Cummings, & El-Sheikh, 1989; Grych, 1998; Jouriles, Spiller, Stephens, McDonald, & Swank, 2000). Second, a substantial amount of research has speculated positive effects of constructive conflict on children's social competence (Kathleen McCoy et al., 2009), but much less is known how children's emotional security and behavior problems are influenced by both destructive and constructive conflict. Examining the impact of constructive conflict on emotional security and children's behavior problems compared with the impact of destructive conflict is significant because constructive conflict may serve to increase children's emotional security by showing interparental disagreements can be effectively resolved and elicit decreases in children's behavior problems by improving children's confidence in the safety of family stability and children's regulatory systems (Cummings & Davies, 2011). Third, traditional methodologies utilized in studies of parental conflict and child outcomes tend to collect data from one parent only (Coln, Jordan, & Mercer, 2012) or use average or sum scores reflecting maternal and paternal composite behaviors (Frankel, Umemura, Jacobvitz, & Hazen, 2015). These methods are problematic and may yield biased test estimates by violating assumptions of independence (Cook & Kenny, 2005; Kivlighan Jr., 2007). Considering data from both mothers and fathers as interdependent can advance the literature supporting family systems theory emphasizing spillover and crossover effects across parents (Bakker & Demerouti, 2013).

Our conceptual model is provided in Figure 4. The model incorporates perspectives from both parents on destructive or constructive conflicts and tests parents' perceptions of children's emotional security as mediating the associations between interparental conflict and parents' perceptions of children's behavior problems. The expected mediation could be carried through two types of indirect effects:

(1) Mediation of direct <u>actor</u> effects (the effects of one parent's destructive or constructive conflicts on his/her own perceptions of children's behavior problems):

    (a) Through the actor mediator (actor → actor → actor path):

        Destructive conflict: A significant indirect effect would suggest that greater destructive conflict is linked with higher levels of each parent's own perceptions of children's behavior problems because he/she tends to perceive that the child has lower levels of emotional security;

        Constructive conflict: A significant indirect effect would suggest that greater constructive conflict is linked with lower levels of each parent's own perceptions of children's behavior problems because he/she tends to perceive that the child has higher levels of emotional security.

    (b) Through the partner mediator (actor → partner → actor path):

        Destructive conflict: A significant indirect effect would suggest that greater destructive conflict is linked with higher levels of each parent's own perceptions of children's behavior problems because his/her partner tends to perceive that the child has lower levels of emotional security;

        Constructive conflict: A significant indirect effect would suggest that greater constructive conflict is linked with lower levels of each parent's own perceptions of children's behavior problems because his/her partner tends to perceive that the child has higher levels of emotional security.

(2) Mediation of direct <u>partner</u> effects (one parent's destructive or constructive conflict on his/her partners' perceptions of children's behavior problems):

    (a) Through the actor mediator (actor → actor → partner path):

Destructive conflict: A significant indirect effect would suggest that greater destructive conflict is linked with higher levels of partner's perceptions on children's behavior problems because he/she tends to perceive that the child has lower levels of emotional security;

Constructive conflict: A significant indirect effect would suggest that greater constructive conflict is linked with lower levels of partner's perceptions on children's behavior problems because he/she tends to perceive that the child has higher levels of emotional security.

(b) Through the partner mediator (actor → partner → partner path):

Destructive Conflict: A significant indirect effect would suggest that greater destructive conflict is linked with higher levels of partner's perceptions on children's behavior problems because his/her partner tends to perceive that the child has lower levels of emotional security;
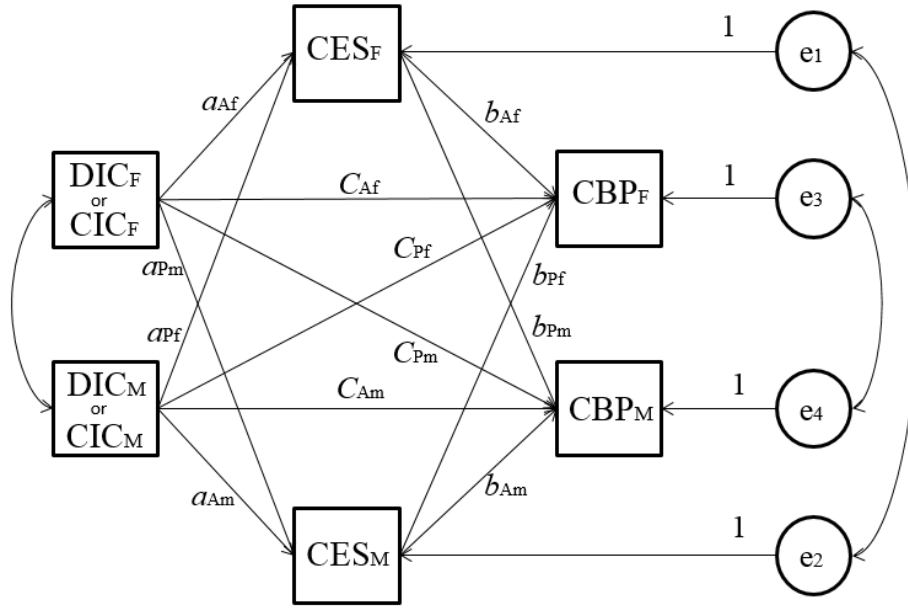
Constructive conflict: A significant indirect effect would suggest that greater constructive conflict is linked with lower levels of partner's perceptions on children's behavior problems because his/her partner tends to perceive that the child has higher levels of emotional security.

Figure 4. Conceptual model (Actor-partner interdependence mediation model of destructive interparental conflict (DIC) or constructive interparental conflict (CIC) predicting children's behavior problem (CBP), with children's emotional security (CES) as a mediator variable). Subscripts of variables denote whether the variable belongs to the father (F) or the mother (M). A= actor effect; P = partner effect; a = X (predictor) $\rightarrow$ M (mediator) path; b = M (mediator) $\rightarrow$ Y (outcome) path; c = X (predictor) $\rightarrow$ Y (outcome) path.

Method

Participants

Families in the current study were drawn from a larger project of family processes related to toddlers' emotions. 166 parents (83 mother-father dyads) of toddlers were recruited in a semi urban area in the Midwest. Toddlers were, on average, 29.56 months old ($SD = 4.34$) and 50.6 % ($n = 41$) were girls. Parents of toddlers ranged in age from 23 to 52 years, and the mean ages of mothers and fathers were 32.59 ($SD = 4.72$) and 34.45 ($SD = 5.34$) years, respectively. The majority of mothers were White (67.5 %, n = 56), followed by Black (10.8 %), Asian (9.6 %), and other racial groups (12.1 %). Fathers were also primarily White (67.5 %, $n = 56$) with 32.5 % representing other racial minorities. All mothers and fathers had completed high school or above and 62.20 % families earned more than $55,000 /year ($n = 51$). 24.1 % of mothers were

not employed ($n = 20$) and only 3.7 % of fathers were not employed ($n = 3$). Most parents

reported living with their partners (96.4 %, $n = 80$ dyads).

Procedure

Mother-father-child triads were recruited through announcements at a university via

email list serves, community parenting list serves, and by flyers distributed through childcare

programs. Families visited the laboratory for a one-time interview. Mothers and fathers were

fully informed of the study and they signed consent forms at the beginning of the visit. Each

parent was interviewed separately and the interview lasted approximately 1.5 to 2 hours.

Measures

Destructive and constructive interparental conflict. Both mothers and fathers

completed four scales derived from the Conflicts and Problem-Solving Scales to assess

destructive conflict (CPS; Kerig, 1996). The verbal aggression scale consists of eight items

assessing the tendency to threaten or inflict harm on a partner in a verbal manner (e.g., insulting).

The stalemate/ stonewall scale consists of seven items that capture the impasse in attempting to

resolve conflicts which occurred (e.g., giving the silent-treatment). The avoidance-capitulation

scale contains ten items assessing the tendency to avoid conflicts or give up in conflicts (e.g.,

giving in to partner's point of view to escape argument). The child involvement scale contains

five items that capture the degree to which children are involved in the conflict (e.g., involving

the children in the argument). Each scale was rated from 0 (*never*) to 3 (*often*) and all items were

averaged to form a composite score. Alpha coefficient for destructive conflict aggregate was .85

for mothers and .83 for fathers.

Both mothers and fathers also completed the resolution scale derived from the Conflicts

and Problem-Solving Scales to assess constructive conflict (CPS; Kerig, 1996). In contrast to

some previous studies (McCoy, George, Cummings, & Davies, 2013), the Cooperation scale was not used in the current study due to the low reliability. The resolution scale consists of 13 items assessing the frequency of positive resolution (e.g., "We feel closer to one another than before the fight"), negative resolution (e.g., "We end up feeling angry and annoyed with one another"), and unclear resolution (e.g, We don't resolve the issue, but agree to disagree"). The resolution scale was rated from 0 (*never*) to 3 (*usually*). The scores of each scale weighted according to the resolution quality: (a) the positive resolution (multiplied by two); (b) the negative resolution (multiplied by negative two); (c) the unclear resolution (multiplied by one). These scores were summed to form a composite score ranged from -48 to 24 and higher scores indicated more positive emotions during the conflict resolution. Alpha coefficient for constructive conflict aggregate was .79 for mothers and .83 for fathers.

Young children's behavior problems. Toddlers' socio-emotional behaviors were assessed from both mother and father reports. Both parents filled out the Brief Infant-Toddler Socio-emotional Assessment (BITSEA; Briggs-Gowan & Carter, 2006). Behavior problems subscale of the BITSEA has 31 items, including internalizing, externalizing and dysregulation behaviors such as "Cries and hang onto you when you try to leave," and "Hits, bites or kicks you (or other parent)." All items were rated on 3-point scale ranging from 0 (*not true/ rarely*) to 2 (*very true/ often*). For the current study, a BITSA behavior problem score was created using the mean of items of the behavior problem subscale as an outcome. Cronbach's alpha in the current sample was .81 for mothers and .78 for fathers.

Young children's emotional security. The Security in the Marital Subsystem Scale–Parent Report Inventory (SIMS-PR; Davies, Forman, Rasi, & Stevens, 2002) was used to assess mothers' and fathers' perception of toddler emotional security. For the current study, modified

toddler versions of SIMS-PR three subscales were utilized. This scale consists of total 15 items

measuring children's emotional security which are rated using a 5-point scale ranging from 1

(*not at all like him or her*) to 5 (*a whole lot like him or her*). The overt emotional reactivity scale

consists of 6 items which reflect expressions of intense, prolonged, and dysregulated bouts of

distress (e.g., "Still seems upset after we argue"). The behavioral dysregulation scale consists of

5 items which reflect behavioral arousal and lack of control (e.g., "Causes trouble"). The overt

avoidance scale consists of 4 items which reflect attempts to intervene in marital conflicts (e.g.,

"Tries to get away from us"). All scores were reversed so that higher scores indicated more

emotional security. Mean scores for each subscale were conducted and the mean scores were

summed for the total toddler emotional security score. Cronbach's alpha in the current sample

for unsupportive aggregates was .76 mothers and .77 for fathers.

Data Analysis Plan

We conducted the path analyses via Mplus Version 7 and the Actor-Partner

Interdependence Mediation Model (APIMeM; Ledermann, Macho, & Kenny, 2011) to examine

actor and partner effects outlined in Figure 4. The APIMeM accounts for possible

interdependence in the dyadic data while also producing total, direct, and overall indirect effects

(as well as specific indirect effects for multiple mediators). In order to estimate and test the

indirect effects, a bootstrapping procedure was conducted (Preacher & Hayes, 2008). When

examining mediation effects in a dyadic data set with the general path analysis, potential indirect

and direct actor and partner effects may not be detected due to model complexity and common

power issues (Ledermann et al., 2011). In order to solve the issues, APIMeM suggests

examining only specific direct and indirect effects by treating distinguishable members as

indistinguishable or by assuming certain patterns which lead to an increase in power, and by

implementing bootstrapping methodology (Ledermann et al., 2011).

In the APIMeM, four specific patterns can be identified depending on the ratio of the partner effect $e_{partner}$ to actor effect e_{actor} (Kenny & Ledermann, 2010). The four different patterns of effects that should be tested are: 1) the actor-only pattern ($e_{partner} = 0$, $e_{actor} \neq 0$), 2) the partner-only pattern ($e_{partner} \neq 0$, $e_{actor} = 0$), 3) the couple pattern ($e_{partner} \neq 0$, $e_{actor} \neq 0$, $e_{partner}/e_{actor} = 1$), and 4) the contrast pattern ($e_{partner} \neq 0$, $e_{actor} \neq 0$, $e_{partner}/e_{actor} = -1$). Kenny and Ledermann (2010) introduced a new parameter k to examine these patterns. k is defined as the partner effect divided by the corresponding actor effect $e_{partner}/e_{actor}$, but in case of the partner-only pattern $k = e_{actor}/e_{partner}$. By definition, the parameter k is 0 for the actor-only and partner-only patterns, 1 for the couple pattern, and -1 for the contrast pattern. Kenny and Ledermann (2010) also recommended the computation of a bootstrap CI for k because CIs provide direct information whether a specific pattern takes place.

Incorporating phantom variables into the APIMeM enables us to directly estimate the parameter k within structural equation modeling (SEM). A benefit of using phantom variables in SEM is to impose various constraints on factor loading and structural parameters while not affecting the fit statistics because phantom variables have no substantive meaning and no disturbance (Rindskopf, 1984). Figure 5 illustrates the APIMeM to which six phantom variables and interval estimates of the ks (dashed arrows) were introduced. Figure 5 illustrates how the parameter k can be estimated in SEM. For instance, the path from X_2 to M_1, which was represented as a single path in the conceptual model (Figure 5) was replaced with two separate paths, $X_2 \rightarrow P_{a1}$ (a phantom variable included in the a path) and $P_{a1} \rightarrow M_1$. With an assumption that the effect of X_2 on P_{a1} is same as a_{A1}, a simple equation of $a_{P1} = a_{A1*} k_{a1}$ leads to the aforementioned definition of $k_{a1} = a_{P1}/a_{A1}$.

The APIMeM can be simplified by following the procedures recommended by Ledermann et al. (2011), through which some of the paths were removed depending on the resultant value of ks. The first step of the procedure was to conduct the omnibus test in order to determine if the actor and partner effects vary by the mother-father distinguishable dyads. This decision was made by examining the equality of variances and covariances between mothers' and fathers' variables. Second, based on the results of the indistinguishability test, either the saturated distinguishable or the saturated indistinguishable APIMeM was estimated. Third, ks and corresponding confidence intervals were estimated. Fourth, if either or both the actor and partner effects varied by the distinguishable variables, the k values were compared for a, b, and c paths. If no statistical difference was found between the ks, then k actor and partner effects were set to equal, reducing the complexity of the model. Fifth, all ks which supported a specific dyadic pattern were fixed to 0 (actor-only or partner only pattern), to 1 (couple pattern), or to -1 (contrast pattern). Sixth, this simpler model was re-estimated and compared to the more general model implying no specific pattern. Seventh, if this comparison favored the more parsimonious model (e.g., the difference of the two chi-squares is not significant), the simpler model was respecified by constraining effects and removing the k paths.
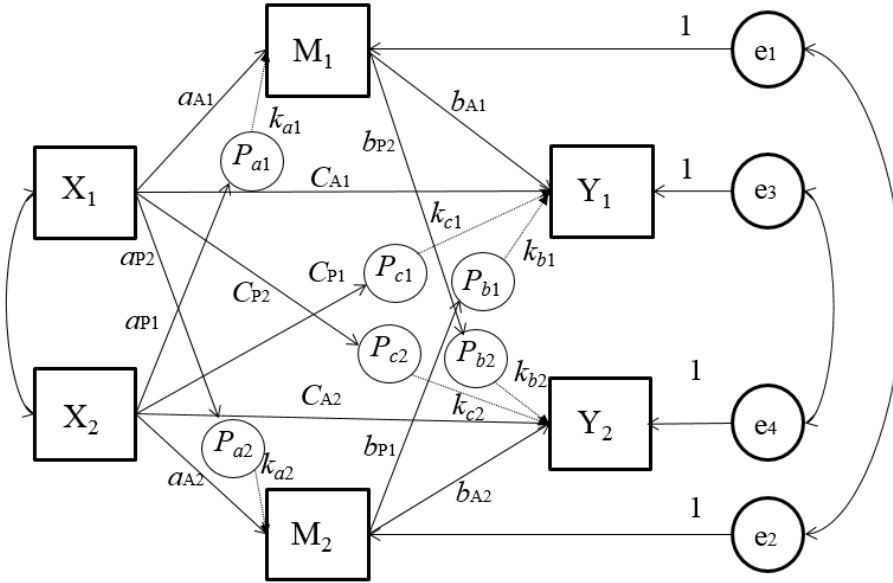
Figure 5. Phantom model (Actor-partner interdependence mediation model permitting estimates of k). Subscripts of variables denote whether the variable belongs to the father (1) or the mother (2). A= actor effect; P = partner effect; X = predictor (interparental conflict); M = mediator (children's emotional security); Y = outcome (children's behavior problem); a = X → M path; b = M → Y path; c = X → Y path.

Results

Means and standard deviations of variables are presented in Table 4. Fathers perceived higher levels of behavior problems than mothers, $t(154) = 2.80$, $p = .006$. There were no significant differences between mothers and father with destructive conflict, $t(164) = -0.85$, $p = .397$, constructive conflict, $t(159) = -0.50$, $p = .618$, and perceptions of children's emotional security, $t(155) = 0.62$, $p = .539$. Table 4 also shows bivariate correlations for mothers (below the diagonal), for fathers (above the diagonal), and between mothers and fathers (on the diagonal). The between-parents correlation was relatively high for parents' constructive conflict ($r = .46$). In contrast, the between-parents correlations were relatively small with regard to children's emotional security (i.e. $r = .29$).

Table 4. *Descriptive Statistics and Correlations for Study Variables*

	1	2	3	4
1. Destructive interparental conflict	.36**	-.66**	-.36**	.28*
2. Constructive interparental conflict	-.59**	.46**	.17	-.15
3. Children's emotional security	-.39**	.39**	.29**	-.47**
4. Children's behavior problem	.34**	-.25*	-.29**	.44**
Fathers M (SD)	1.17 (0.32)	7.98 (10.31)	4.40 (0.45)	0.52 (0.26)
Min/ Max	0.40/ 1.83	-18/ 24	2.87/ 5	0.16/ 1.32
Mothers M (SD)	1.22 (0.34)	8.72 (8.86)	4.35 (0.55)	0.42 (0.20)
Min/ Max	0.37/ 2.37	-21/ 22	2.27/ 5	0.10/ 1.16

Note. Correlations between variables for mothers are below the diagonal. Correlations between variables for fathers are above the diagonal, and correlations between variables for mothers and fathers are on the diagonal.
*p < .05, **p < .01, ***p < .001

Mediation Model with Destructive Interparental Conflict

Results from the omnibus tests for distinguishability revealed that mothers and fathers were distinguishable dyads indicting the difference of means, variances and correlations between mothers' and fathers' variables (Kenny, Kashy, & Cook, 2006). It means parent dyads cannot be exchangeable by their gender. In regard to the hypothesis that imposing indistinguishability constraints does not statistically significantly reduce the model fit, the chi-square test was significant when comparing the unconstrained model to the constrained model, $\Delta\chi^2$ (12) = 43.30, p = .000. Thus, mothers and fathers were analyzed as distinguishable dyads in subsequent analyses.

First, in this model implying distinguishability (the distinguishable saturated model: χ^2 (27) = 0.00, p = .00, CFI = 1.00, RMSEA = 0.00), six ks and their 95 % confidence intervals were estimated: two for the *a* path or $k_{a1} = a_{P1}/a_{A1}, k_{a2} = a_{P2}/a_{A2}$; two for the *b* path or $k_{b1} = b_{P1}/b_{A1}, k_{b2} = b_{P2}/b_{A2}$; two for the *c* path or $k_{c1} = c_{P1}/c_{A1}, k_{c2} = c_{P2}/c_{A2}$ (See Table 5).

Table 5. *Estimation of k in Destructive Interparental Conflict Model*

k Effect	Coefficient	Estimate	95% CI
k_{a1}	$P_{a1} \rightarrow CES_f$	0.074	-0.527 1.350
k_{a2}	$P_{a2} \rightarrow CES_m$	1.676	0.543 7.683
k_{b1}	$P_{b1} \rightarrow CBP_f$	-0.117	-0.930 0.362
k_{b2}	$P_{b2} \rightarrow CBP_m$	3.360	1.126 24.354
k_{c1}	$P_{c1} \rightarrow CBP_f$	-0.058	-2.905 2.697
k_{c2}	$P_{c2} \rightarrow CBP_m$	-0.183	-1.141 2.443

Second, the ks for the actor and partner effects were compared: k_{a1} and k_{a2} were statistically equal (CI -8.566 to 0.231), the k_{b1} and k_{b2} were not statistically equal (CI -23.704 to -0.981), and k_{c1} and k_{c2} were statistically equal (CI -4.910 to 2.905). Thus the corresponding ks were set equal for the a and c paths, not for the b path.

Third, four ks and their 95% confidence intervals were estimated: $k_a = 0.956$ (CI 0.221 to 3.350), $k_{b1} = -0.114$ (CI -1.011 to 0.340), $k_{b2} = 3.398$ (CI 1.120 to 24.026), $k_c = -0.134$ (CI -1.246 to 1.006). 95% CI of k_a included 1 which supports the couple pattern for both a paths. So k_a was fixed to 1 (the couple pattern). 95% CI of k_{b1} included -1 and 0 which supports the contrast, the partner-only, and the actor-only patterns for the b path from M_2 (Mothers' perceptions of children's emotional security) to Y_1 (Fathers' perceptions of children's behavior problems). k_{b1} was fixed to 0 as the actor-only pattern because the contrast pattern and the partner-only pattern are relatively rare (Ledermann et al., 2011) and were not supported by the hypotheses. Although 95% CI of k_{b2} did not included -1, 0, and 1, k_{b2} was fixed to 1 because the value of k_{b2} neared to 1 (the couple pattern). Also the chi-square ratio test was not significant when comparing the k_{b2} unconstrained model to the k_{b2} constrained model, $\Delta\chi^2 (1) = 1.96, p = .161$. That is, it supports the couple pattern for b path from M_1 (Fathers' perceptions of children's emotional security) to Y_2 (Mothers' perceptions of children's behavior problems). 95% CI of k_c included -1, 0, and 1 which supports all dyadic patterns. However, k_c was fixed to 0 as the actor-only pattern because

the value of k_c was close to 0. Although a model in which k was equal to 1 might be also reasonable, $\chi^2 (21) = 11.575$, $p = .072$, its fit was relatively worse than a model in which k was equal to 0: When k was equal to 1, Akaike information criteria (AIC)/ Bayesian information criteria (BIC) was 258.92/309.72 which was higher than AIC/BIC =253.54/304.33. Higher AIC and BIC values indicate a worse fitting model (Kuha, 2004). The contrast pattern for c paths also was not supported by hypotheses.

Consequently, a final model was estimated. The couple pattern for both a paths; the actor-only patterns for the b path from M_2 (Mothers' perceptions of children's emotional security) to Y_1 (Fathers' perceptions of children's behavior problems); the couple pattern for b path from M_1 (Fathers' perceptions of children's emotional security) to Y_2 (Mothers' perceptions of children's behavior problems); the actor-only pattern for both c paths (See Figure 6). This final model fit showed excellent fit, $\chi^2 (21) = 6.192$, $p = .402$, CFI=0.99, RMSEA = 0.02. As Figure 6 shows, mothers' perceptions of children's emotional security ($\beta = -0.53$, $p < .001$) were more affected by the actor's (the mothers') and the partner's (the fathers') perceptions of destructive conflict than fathers' perceptions of children's emotional security were affected ($\beta = -0.25$, $p = .001$). In addition, fathers' perceptions of children's behavior problems ($\beta = -0.2$, $p = .002$) were more affected by the actor's (the fathers') perceptions of children's emotional security than mothers' perceptions of children's behavior problems were affected by the actor's (the mothers') and partner's (the fathers') perceptions of children's emotional security ($\beta = -0.08$, $p = .012$).
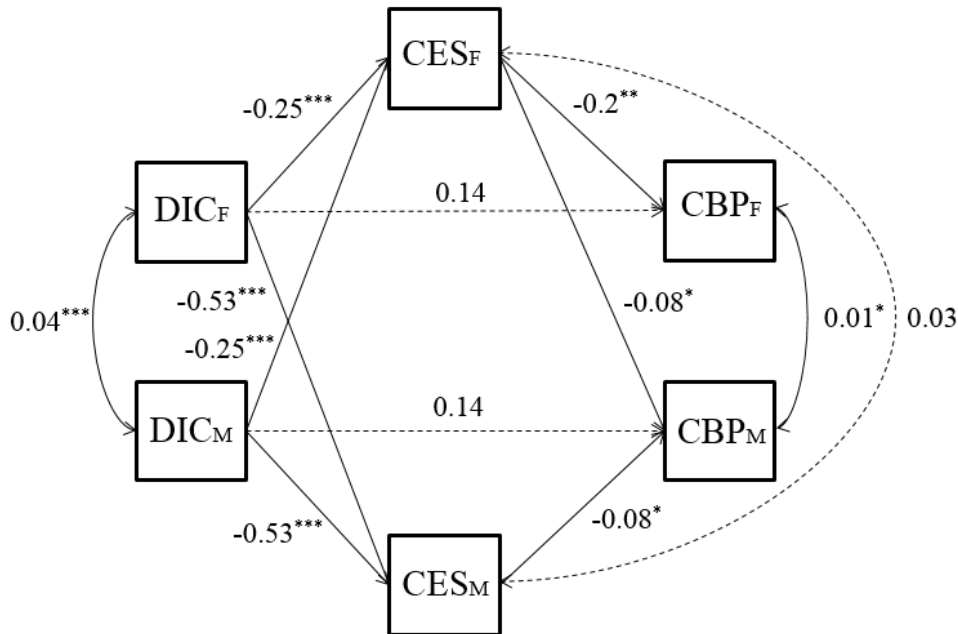
Figure 6. Final model of destructive interparental conflict (Actor-partner interdependence mediation model of destructive interparental conflict (DIC) predicting children's behavior problem (CBP), with children's emotional security (CES) as a mediator variable). χ^2 (21) =6.192, p = .402, CFI=0.99, RMSEA = 0.02. Subscripts of variables denote whether the variable belongs to the father (F) or the mother (M). *p < .05, **p < .01, ***p < .001.

Table 6 summarizes all results which are presented below. Significance of the direct effects and indirect effects was tested using 95% bootstrapped confidence intervals (Preacher & Hayes, 2008). Interestingly, all direct effects were not significant (CIs -0.02 to 0.277) and all indirect effects were significant (CIs 0.007 to 0.123) in the final model. This suggests that that the final APIMeM model is a complete (full) mediation model (See Table 6). Regarding effect sizes of the standardized indirect effects, indirect effects of the final model were between small (approximating .01) and medium (approximating .09) effects (Kenny, 2015).

In particular, the actor effect of one parent's destructive conflict on his/ her own perceptions of children's behavior problems was mediated through his/her own perceptions of children's emotional security (actor → actor → actor path): The mother actor effect of destructive conflict on her own perceptions of children's behavior problems was mediated

through mothers' perceptions of children's emotional security; the father actor effect of destructive conflict on his own perceptions of children's behavior problems was mediated through fathers' perceptions of children's emotional security. The mother actor effect of destructive conflict on her own perceptions of children's behavior problems was mediated through fathers' perceptions of children's emotional security (actor → partner → actor path). The mother partner effect from fathers' destructive conflict to the mother's perceptions of children's behavior problems was mediated by the father's perceptions of children's emotional security (actor → actor → partner path). The partner effect from one parent's destructive conflict to the partner's perceptions of children' behavior problems was mediated by the partner's perceptions of children's emotional security (actor → partner → partner path): The mother partner effect from fathers' destructive conflict to the mothers' perceptions of children' behavior problems was mediated by the mothers' perceptions of children's emotional security; the father partner effect from mothers' destructive conflict to the fathers' perceptions of children' behavior problems was mediated by the fathers' perceptions of children's emotional security.

According to the contrast analyses (Preacher & Hayes, 2008), in the mother actor effect, the specific indirect effects through the actor mediator (actor → actor → actor path: $\beta = 0.04$, CI 0.018 to 0.086) were stronger than for the partner mediator (actor → partner → actor path: $\beta = 0.02$, CI 0.007 to 0.046) and its difference was significant (CI of the contrast analysis 0.005 to 0.058). In the mother partner effect, the specific indirect effects through the partner mediator (actor → partner → partner path: $\beta = 0.04$, CI 0.018 to 0.086) were stronger than for the actor mediator (actor → actor → partner path: $\beta = 0.02$, CI 0.007 to 0.046) and its difference was significant (CI of the contrast analysis -0.058 to -0.005). In father effect, father actor total effects ($\beta = 0.19$, CI 0.049 to 0.330) were stronger than for father partner total effect ($\beta = 0.05$, CI 0.014

to 0.108) and its difference was significant (CI of the contrast analysis 0.076 to 0.131).

Table 6. *Relations among Destructive Conflict, Child Emotional Security, and Behavior Problems*

Effect	Coefficient	Mediation path	Estimate	95% CI	
Father Actor Effect					
Total Effect	$DIC_f \rightarrow CBP_f$		0.189^*	0.049	0.330
Total IE			0.050^*	0.014	0.108
Actor-Actor Simple IE	$DIC_f \rightarrow CES_f \rightarrow CBP_f$	actor → actor → actor path	0.050^*	0.014	0.108
Partner-Partner Simple IE	$DIC_f \rightarrow CES_m \rightarrow CBP_f$	actor → partner → actor path	N/A	N/A	
Direct Effect c'	$DIC_f \rightarrow CBP_f$		0.139	-0.020	0.277
Mother Actor Effect					
Total Effect	$DIC_m \rightarrow CBP_m$		0.202^*	0.069	0.336
Total IE			0.064^*	0.026	0.123
Actor-Actor Simple IE	$DIC_m \rightarrow CES_m \rightarrow CBP_m$	actor → actor → actor path	0.040^*	0.018	0.086
Partner-Partner Simple IE	$DIC_m \rightarrow CES_f \rightarrow CBP_m$	actor → partner → actor path	0.020^*	0.007	0.046
Direct Effect c'	$DIC_m \rightarrow CBP_m$		0.138	-0.002	0.276
Father Partner Effect					
Total Effect	$DIC_m \rightarrow CBP_f$		0.050^*	0.014	0.108
Total IE			0.050^*	0.014	0.108
Actor-Partner Simple IE	$DIC_m \rightarrow CES_m \rightarrow CBP_f$	actor → actor → partner path	N/A	N/A	
Partner-Actor Simple IE	$DIC_m \rightarrow CES_f \rightarrow CBP_f$	actor → partner → partner path	0.050^*	0.014	0.108
Direct Effect c'	$DIC_m \rightarrow CBP_f$		N/A	N/A	
Mother Partner Effect					
Total Effect	$DIC_f \rightarrow CBP_m$		0.064^*	0.026	0.123
Total IE			0.064^*	0.026	0.123
Actor-Partner Simple IE	$DIC_f \rightarrow CES_f \rightarrow CBP_m$	actor → actor → partner path	0.020^*	0.007	0.046
Partner-Actor Simple IE	$DIC_f \rightarrow CES_m \rightarrow CBP_m$	actor → partner → partner path	0.040^*	0.018	0.086
Direct Effect c'	$DIC_f \rightarrow CBP_m$		N/A	N/A	

Note. DIC = Destructive Interparental Conflict; CES = Child Emotional Security; CBP = Child Behavior Problem; Subscripts of variables denote whether the variable belongs to the father (F) or the mother (M).

Mediation Model with Constructive Interparental Conflict

The omnibus tests for distinguishability (Kenny et al., 2006) revealed that mothers and fathers are distinguishable dyads indicting the difference of means, variances and correlations

between mothers' and fathers' variables (Kenny et al., 2006). Using as the null hypothesis that imposing indistinguishability constraints does not statistically significantly reduce the model fit, the chi-square test was significant when comparing the unconstrained model to the constrained model, $\Delta\chi^2$ (12) = 36.67, p = .000. Thus, mothers and fathers were analyzed as distinguishable dyads in subsequent analyses.

First, in this model implying distinguishability (the distinguishable saturated model: χ^2 (27) = 0.00, p = .00, CFI=1.00, RMSEA=0.00), six ks and their 95 % confidence intervals were estimated: Two for the a path or k_{a1} = a_{P1}/a_{A1}, k_{a2} = a_{P2}/a_{A2}; two for the b path or k_{b1} = b_{P1}/b_{A1}, k_{b2} = b_{P2}/b_{A2}; two for the c path or k_{c1} = c_{P1}/c_{A1}, k_{c2} = c_{P2}/c_{A2} (See Table 7).

Table 7. *Estimation of k in Constructive Interparental Conflict Model*

k Effect	Coefficient	Estimate	95% CI
k_{a1}	$P_{a1} \rightarrow CES_f$	1.699	0.035 19.558
k_{a2}	$P_{a2} \rightarrow CES_m$	0.631	0.027 4.136
k_{b1}	$P_{b1} \rightarrow CBP_f$	-0.054	-0.489 0.369
k_{b2}	$P_{b2} \rightarrow CBP_m$	2.522	0.711 17.273
k_{c1}	$P_{c1} \rightarrow CBP_f$	0.121	-1.910 6.098
k_{c2}	$P_{c2} \rightarrow CBP_m$	0.027	-1.510 3.104

Second, the ks for the actor and partner effects were compared: k_{a1} and k_{a2} were statistically equal (CI -0.980 to 20.469), the k_{b1} and k_{b2} were not statistically equal (CI -17.513 to -0.541), and k_{c1} and k_{c2} were statistically equal (CI -3.455 to 5.731). Thus the corresponding ks were set equal for the a and c paths, but not for the b path.

Third, four ks and their 95% confidence intervals were estimated: k_a = 0.771 (CI 0.091 to 5.431), k_{b1} = -0.051 (CI -0.484 to 0.397), k_{b2} = 2.53 (CI 0.761 to 17.929), k_c = 0.054 (CI -1.655 to 2.529). The 95% CI of k_a included 1, which supports the couple pattern for both a paths. So I fixed k_a to 1 (the couple pattern). The 95% CI of k_{b1} included -1 and 0 which supports the contrast, the partner-only, and the actor-only patterns for the b path from M_2 (Mothers'

perceptions of children's emotional security) to Y_1 (Fathers' perceptions of children's behavior problems). k_{b1} was fixed to 0 as the actor-only patterns because the contrast pattern and the partner-only pattern are relatively rare (Ledermann et al., 2011) and were not supported by the hypotheses. k_{b2} was fixed to 1 as the couple pattern because 95% CI of k_{b2} included 1. That is, it supported the couple pattern for b path from M_1 (Fathers' perceptions of children's emotional security) to Y_2 (Mothers' perceptions of children's behavior problems). 95% CI of k_c included -1, 0, and 1 which supports all dyadic patterns. However, k_c was fixed to 0 as the actor-only pattern because the value of k_c neared to 0. Although a model in which k was equal to 1 might also reasonable, $\chi^2 (21) = 2.726$, $p = .842$, its fit was relatively worse than a model in which k is equal to 0: When k was equal to 1, AIC/BIC was 1373.79/1424.58 which was higher than AIC/BIC =1372.92/1423.71. The contrast pattern for c paths also was not supported by hypotheses.

Consequently, a final model was estimated: The couple pattern for both a paths, the actor-only patterns for the b path from M_2 (Mothers' perceptions of children's emotional security) to Y_1 (Fathers' perceptions of children's behavior problems); the couple pattern for b path from M_1 (Fathers' perceptions of children's emotional security) to Y_2 (Mothers' perceptions of children's behavior problems); the actor-only pattern for both c paths (See Figure 7). This final model fit showed excellent fit, $\chi^2 (21) = 1.86$, $p = .932$, CFI=1.00, RMSEA = 0.00. As Figure 7 shows, mothers' perceptions of children's emotional security ($\beta = 0.02$, $p < .001$) were more affected by the actor's (mothers') and the partner's (fathers') perceptions of constructive conflict than fathers' perceptions of children's emotional security were affected ($\beta = 0.01$, $p = .042$). In addition, fathers' perceptions of children's behavior problems ($\beta = -0.23$, $p < .001$) were more affected by the actor's perceptions (fathers') of children's emotional security than mothers'

perceptions of children's behavior problems were affected by the actor's (mothers') and partner's

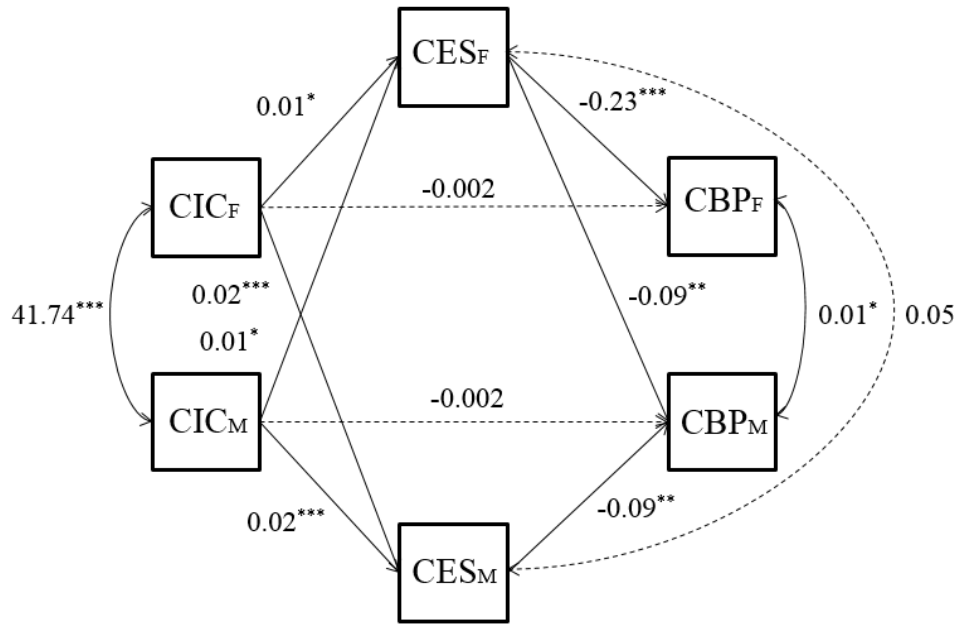(fathers') perceptions of children's emotional security ($\beta = -0.09$, $p = .008$).

Figure 7. Final model for constructive interparental conflict (Actor-partner interdependence mediation model of constructive interparental conflict (CIC) predicting children's behavior problem (CBP), with children's emotional security (CES) as a mediator variable). $\chi^2(21) = 1.86$, $p = .932$, CFI=1.00, RMSEA = 0.00. Subscripts of variables denote whether the variable belongs to the father (F) or the mother (M). *$p < .05$, **$p < .01$, ***$p < .001$.

Table 8 summarizes all results which are presented below. Significance of the direct

effects and indirect effects was tested using 95% bootstrapped confidence intervals (Preacher &

Hayes, 2008). Interestingly, all direct effects were not significant (CIs -0.007 to 0.003) and only

mother actor indirect effects and mother partner indirect effect were significant (CIs -0.004 to -

0.001) in the final model. This indicates that the final APIMeM model is a complete (full)

mediation model for mother actor and partner effects (See Table 8). Regarding effect sizes of the

standardized indirect effects, indirect effects of the final model were very small effects (Kenny,

2015).

In particular, the mother actor effect of constructive conflict on her own perceptions of

children's behavior problems was mediated through her own perceptions of children's emotional security (actor → actor → actor path). The partner effect from father's constructive conflict to the mother's perceptions of children' behavior problems was mediated by the mother's perceptions of children's emotional security (actor → partner → partner path).

Table 8. *Relations among Constructive Conflict, Child Emotional Security, and Behavior Problems*

Effect	Coefficient	Mediation path	Estimate	95% CI
Father Actor Effect				
Total Effect	$CIC_f \rightarrow CBP_f$		-0.003	-0.009 0.002
Total IE			-0.001	-0.003 0.000
Actor-Actor Simple IE	$CIC_f \rightarrow CES_f \rightarrow CBP_f$	actor → actor → actor path	-0.001	-0.003 0.000
Partner-Partner Simple IE	$CIC_f \rightarrow CES_m \rightarrow CBP_f$	actor → partner → actor path	N/A	N/A
Direct Effect c'	$CIC_f \rightarrow CBP_f$		-0.002	-0.008 0.003
Mother Actor Effect				
Total Effect	$CIC_m \rightarrow CBP_m$		-0.004	-0.008 0.000
Total IE			-0.002*	-0.004 -0.001
Actor-Actor Simple IE	$CIC_m \rightarrow CES_m \rightarrow CBP_m$	actor → actor → actor path	-0.001*	-0.003 -0.001
Partner-Partner Simple IE	$CIC_m \rightarrow CES_f \rightarrow CBP_m$	actor → partner → actor path	-0.001	-0.001 0.000
Direct Effect c'	$CIC_m \rightarrow CBP_m$		-0.002	-0.007 0.002
Father Partner Effect				
Total Effect	$CIC_m \rightarrow CBP_f$		-0.001	-0.003 0.000
Total IE			-0.001	-0.003 0.000
Actor-Partner Simple IE	$CIC_m \rightarrow CES_m \rightarrow CBP_f$	actor → actor → partner path	N/A	N/A
Partner-Actor Simple IE	$CIC_m \rightarrow CES_f \rightarrow CBP_f$	actor → partner → partner path	-0.001	-0.003 0.000
Direct Effect c'	$CIC_m \rightarrow CBP_f$		N/A	N/A
Mother Partner Effect				
Total Effect	$CIC_f \rightarrow CBP_m$		-0.002*	-0.004 -0.001
Total IE			-0.002*	-0.004 -0.001
Actor-Partner Simple IE	$CIC_f \rightarrow CES_f \rightarrow CBP_m$	actor → actor → partner path	-0.001	-0.001 0.000
Partner-Actor Simple IE	$CIC_f \rightarrow CES_m \rightarrow CBP_m$	actor → partner → partner path	-0.001*	-0.003 -0.001
Direct Effect c'	$CIC_f \rightarrow CBP_m$		N/A	N/A

Note. CIC = Constructive Interparental Conflict; CES = Child Emotional Security; CBP = Child Behavior Problem; Subscripts of variables denote whether the variable belongs to the father (F) or the mother (M).

Discussion

The aim of the current study was to test the association between interparental conflict and children's behavior problems through children's emotional security, examining pathways within and between mothers and fathers. The results supported mediation effects by using APIMeM (Ledermann et al., 2011), giving strong empirical evidence for several of our hypotheses. In destructive interparental conflict model, all four indirect effects were significant: Hypothesis 1a) actor → actor → actor path; Hypothesis 1b) actor → partner → actor path; Hypothesis 2a) actor → actor → partner path; Hypothesis 2b) actor → partner → partner path. In constructive interparental conflict model, two indirect effects were significant: Hypothesis 1a) actor → actor → actor path; Hypothesis 2b) actor → partner → partner path. We turn first to a discussion of destructive conflict, children's emotional security and behavior problems.

Destructive Conflict, Children's Emotional Security and Behavior Problems

The results indicated that, for both mothers and fathers, actor and partner effects of destructive interparental conflict on children's behavior problems were mediated by actor and partner children's emotional security. That is, supporting Hypothesis 1a, the mother actor effect of destructive conflict on her own perceptions of children's behavior problems was mediated through mothers' perceptions of children's emotional security; the father actor effect of destructive conflict on his own perceptions of children's behavior problems was mediated through fathers' perceptions of children's emotional security. Supporting Hypothesis 1b, the mother actor effect of destructive conflict on her own perceptions of children's behavior problems was mediated through fathers' perceptions of children's emotional security. Supporting Hypothesis 2a, the mother partner effect from fathers' destructive conflict to the mother's perceptions of children's behavior problems was mediated by the father's perceptions

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of children's emotional security. Supporting Hypothesis 2b, the mother partner effect from fathers' destructive conflict to the mothers' perceptions of children' behavior problems was mediated by the mothers' perceptions of children's emotional security; the father partner effect from mothers' destructive conflict to the fathers' perceptions of children' behavior problems was mediated by the fathers' perceptions of children's emotional security. In the destructive interparental conflict context, it may be that both parents are projecting their own worries/ concerns about the conflict onto their perception of how the child is experiencing the conflict. In turn, this impacts their perceptions of greater behavior problem.

Pursuant with emotional security theory (Davies & Cummings, 1994), these results underscore the essential role of children's emotional security as an intermediary between destructive interparental conflict and children's behavior problems regardless of parent gender. Notably, consistent with previous research (Cummings et al., 2012, 2006; Harold et al., 2004), the direct paths between destructive interparental conflict and children's behavior problems were not significant after accounting for mediated effects (See Table 6). This provides strong evidence for the interpretation that "interparental conflict is no less important as a predictor of adjustment problems in an indirect chain of events, because without the precipitating event of marital conflict the unfolding series of pathogenic processes would not have eventuated (Cummings et al., 2012, p 1712)." Further, this study extended previous findings by showing that full mediation effects of emotional security existed even with a statistically significant total X (destructive interparental conflict) → Y (children's behavior problems) effect (Cummings et al., 2012). The full mediation effects of emotional security in the sample with toddlers also extended previous work (Cummings et al., 2012). This suggests that for toddlers as well as school age children emotional security is an important mechanism to explain behavior problems

in the destructive conflict context.

Indirect effects through mothers' perceptions of emotional security on the relation between mothers' (or fathers') destructive conflict and mothers' perceptions of behavior problems were greater than indirect effects through fathers' perceptions of emotional security (See *Mother Actor Effect* and *Mother Partner Effect* at Table 6). This result suggests that mothers' perceptions of emotional security are a more explanatory mechanism for children's behavior problems than fathers' perceptions of emotional security. It is certainly possible that these results are reflective of mothers' and fathers' differences in perceptions of toddler behavior. However, results may also suggest that mothers may more carefully monitor changes of children's emotional security depending on interparental conflicts than fathers. According to Fivush et al. (Fivush, Brotman, Buckner, & Goodman, 2000), mothers are more likely to be concerned with helping their children to understand and cope with emotions than fathers by discussing cause of emotions. Mothers might be more concerned with children's negative emotion when there is greater destructive conflict.

Constructive Conflict, Children's Emotional Security and Behavior Problems

For only mothers, constructive interparental conflict appeared to have actor effects on children's behavior problems through the actor mediator and have partner effects on children's behavior problems through the partner mediator. In other words, supporting Hypothesis 1a, the mother actor effect of constructive conflict on her own perceptions of children's behavior problems was mediated through her own perceptions of children's emotional security. Supporting Hypothesis 2b, the partner effect from father's constructive conflict to the mother's perceptions of children' behavior problems was mediated by the mother's perceptions of children's emotional security. These results pointed the fact that only actor → actor → partner

path in the mother actor effects and actor → partner → partner path in the mother partner effect were obtained in the CIC model, whereas all four indirect effects were obtained for both mothers and fathers in the DIC model. Destructive interparental conflict tactics may reflect overt ways of enacting conflict, whereas constructive interparental conflicts may be more subtly embedded conflict resolution process. However, mothers may be socialized to be more attuned to such subtle tones in the family. Thus, this may be the reason that we found significant indirect effects only for mothers.

Additionally, consistent with past research (Cheung et al., 2015; Davies, Martin, & Cicchetti, 2012), effects of constructive conflict were much weaker than the effects of destructive conflict in relation between interparental conflict, emotional security, and children's behavior problems. A possible interpretation of the findings is that parents' negative emotions in destructive conflicts may relate to perceptions of greater children's emotional insecurity and behavior problems. Or negative emotions in the destructive parental relationship may prime parents toward negative perceptions of children. Moreover, young children's emotional security and behavior problems may be relatively more influenced by destructive conflict than by constructive conflict. Destructive conflict tactics such as yelling and crying might attract toddlers' attention than constructive conflict tactics such as listening to partner's point of view and trying to reason with partner.

In addition, only actor → actor → partner path in the mother actor effects and actor → partner → partner path in the mother partner effect showed full mediation effects of emotional security. Although past research found full mediation effects of emotional security only in the destructive interparental conflict context (Cummings et al., 2012, 2006; Harold et al., 2004), this study provides robust evidence of full mediation effects of emotional security even in the

constructive interparental conflict context.

Distinguishable Dyads

In this study, mothers and fathers were empirically distinguishable dyads so that all effects among interparental conflict, emotional security, and behavior problem were different between mothers and fathers. Interestingly, in both DIC model and CIC model, mothers' perceptions of emotional security were more heavily affected by mothers' and fathers' interparental conflict than fathers' perceptions of emotional security (See Figure 6 and 7). Mothers seem to be more sensitive to children's emotional security than fathers because mothers are socialized to be in tune with emotional functioning of their families (Erickson, 2005). In addition, mothers may believe that the risk of damage to children's emotional security is due to the external cause such as interparental conflict. Mothers may seek child-rearing information as a primary caregiver and have more knowledge about the impact of stressful family context on children's emotional security so they may more attribute children's emotional insecurity to destructive conflictual environments than fathers.

In both destructive interparental conflict model and constructive interparental conflict model, fathers' perceptions of child behavior problems were more affected by their own perceptions of emotional security than mothers' perceptions of child behavior problems were affected by their own perceptions emotional security (See Figure 6 and 7). Also mothers' perceptions of child behavior problem were affected by their own and partners' perceptions of emotional security but fathers' perceptions of child behavior problem were affected by only their own perceptions of emotional security. These results suggest mothers than fathers may access children's behavior by considering partner's perceptions. Moreover, contrary to prior research (Nelson et al., 2013; Schroeder, Hood, & Hughes, 2010), fathers in the current study reported

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more externalizing problems than mothers reported. Fathers may interpret many toddlers' ordinary situations as confirmation of their beliefs that their children misbehave. In contrast, mothers may think toddlers' tantrums are common in the stressful situation given that some studies have suggested that mothers are more knowledgeable about child development than fathers (Crouter, Helms-Erikson, Updegraff, & McHale, 1999)

Limitations

Findings of the current study should be interpreted with some limitations in mind. First, the cross-sectional approach may have limited capability to examine significant associations between interparental conflict, emotional security, and child behavior problems over time. Second, interparental conflict documented in our community samples of predominantly white families may not necessarily generalize to families with other racial or ethnic backgrounds. Third, the study did not include observations of parental conflict behavior. The use of parents' report for children's emotional security as well as behavior problems may reflect a potential for inaccurate memory or response bias error as well as common source variance. Finally, lager family process such as metacontingencies may contribute to parents' perceptions of child emotions and behaviors (Glenn, 1991). Future research needs to consider metacontingency in the relation between interparental conflict, child emotional security and behavior problems.

Conclusions

Collectively, these findings enhance our understanding the important role of children's emotional security between interparental conflict and children's behavior problems, highlighting significance of parents' gender on the specific indirect paths. These findings suggest that interparental conflict does not impact children's behavior problems unless children's emotional security is included in an indirect path of events. Parents' awareness of damage to children's

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emotional security in the destructive conflict may be essential to creating widespread change for children's behavior. The findings also emphasized dyadic dynamics between mothers and fathers, suggesting that preventive interventions designed for both mothers' and fathers' understanding of causes and results of toddlers' emotional insecurity would help minimize toddler behavior problems. Further, our findings also help understanding how perceptions of interparental conflict from either parent are associated with parental view of child emotional security and behavior problems. Such understanding can enhance the effectiveness of preventive interventions because parental report of children's behaviors are often used in many intervention programs.

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CHAPTER 4

CONCLUSIONS

In accordance with family systems theory (Cox & Paley, 1997), a family consists of many interrelated subsystems (e.g., husband-wife subsystem, parent-child subsystem, sibling subsystem) and the subsystems affect each other. The overarching goal of this dissertation was to examine how parents' dyadic dynamics explain relations between interparental conflict and children's outcome by using actor-partner interdependence models. Specifically, Study 1 investigated the relation between interparental conflict and parental emotion socialization. Study 2 examined mediation effects of toddlers' emotional security on relations between interparental conflict and toddlers' problem behaviors.

This final chapter provides a summary of main findings and implications from the two studies. It also discusses contributions and suggestions for future research.

Summary of Findings

Study 1 examined effects of destructive and constructive interparental conflict on negative parental socialization. Findings of Study 1 provided strong evidence for the spillover hypothesis, in that destructive interparental conflicts impacted negative parental emotion socialization for both mothers and fathers. The results of the actor-partner interdependence model revealed significant actor effects, meaning that parents who reported more destructive interparental conflicts showed greater negative emotion socialization (e.g., unsupportive responses to their children's negative emotions, emotional dismissing). For mothers and fathers, however, there was no evidence to support the crossover hypothesis, in that destructive interparental conflicts were associated with greater partners' negative emotion socialization. Further, a parent's constructive interparental conflict was not related to his/her own emotion

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socialization but constructive interparental conflicts was marginally associated with lower levels of partners' negative emotion socialization. Finally this study indicates that the strength of these pathways was similar for both mothers and fathers.

Study 2 investigated the association between interparental conflict and children's problem behaviors through children's emotional security, exploring for pathways within and between mothers and fathers. The results supported mediation effects by using APIMeM (Ledermann, Macho, & Kenny, 2011), giving strong empirical evidence for several of our hypotheses. In destructive interparental conflict model, all four indirect effects were significant: Hypothesis 1a) actor → actor → actor path; Hypothesis 1b) actor → partner → actor path; Hypothesis 2a) actor → actor → partner path; Hypothesis 2b) actor → partner → partner path. In constructive interparental conflict model, two indirect effects were significant: Hypothesis 1a) actor → actor → actor path; Hypothesis 2b) actor → partner → partner path. In addition, mothers and fathers were empirically distinguishable dyads so that all effects among interparental conflict, emotional security, and problem behavior were different between mothers and fathers. Interestingly, mothers' perceptions of emotional security were more heavily affected by mothers' and fathers' interparental conflict than fathers' perceptions of emotional security. Fathers' perceptions of child problem behaviors were more affected by their own perceptions of emotional security than mothers' perceptions of child problem behaviors were affected by their own perceptions emotional security.

Implications for Theory, Research, and Practice

This dissertation has important implications for theory, research, and practice. First, the findings of this dissertation provide empirical evidence for family systems theory (Cox & Paley, 1997) and emotional security theory (Davies & Cummings, 1994). In particular, results of Study

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1 supported spillover pathways, suggesting parents who engage in more destructive interaction may show more negative parental emotion socialization. Crossover pathways were also marginally verified by showing that a parent's constructive interparental conflicts were associated with his/her partner's less negative parental emotion socialization. Results of Study 2 supported the important role of young children's emotional security between interparental conflict and children's problem behaviors, highlighting significance of parents' gender on the specific indirect paths.

Second, this dissertation has methodological strengths and important implications for research. By moving beyond mother-centered approaches, this dissertation examined the trivariate mother-father-toddler relationship in the context of interparental conflict. Even in some research using both mother and father data, average or sum scores of mother- and the father-report ratings were created and this analysis violated independence assumption (Cook & Kenny, 2005; Kivlighan Jr., 2007). Considering data from both mothers and fathers as interdependent by using APIM and APIMeM can advance the literature because one parent of the dyad likely affects the attributes and behaviors of the other parent.

Third, the studies' results also have several practical implications for preventive interventions. First of all, the two studies highlighted the negative effects of destructive conflicts and positive effects of constructive conflict on parental emotion socialization and children's emotional security and behaviors. These results suggests preventive interventions need to develop specific skills which parents could use to identify destructive behaviors, understand their negative effects on child, and replace them with constructive behaviors. Moreover, a primary finding of Study 2 suggests interparental conflict no less impact to children's behavior problems unless children's emotional security is included in an indirect path of events. In preventive

interventions, parents' awareness of damage to children's emotional security in the destructive

conflict could be vital to creating substantial change for children's behavior. In addition, in

terms of dyadic relations between mothers and fathers, involving both mothers and fathers can

increase effectiveness of preventive interventions for conflictual families. Further, our findings

also help understanding how perceptions of interparental conflict from either parent are

associated with parental view of child emotional security and behavior problems. Such

understanding can enhance effectiveness of preventive interventions because parental report of

children's behaviors are often used in many intervention programs.

Contributions and Suggestions for Future Research

Two studies of this dissertation contribute to current literature concerning the impact of

interparental conflict on children's socio-emotional development.

First, findings of the omnibus test of parental distinguishability in this dissertation add

new information to the literature. In Study 1, mothers and fathers are indistinguishable

(exchangeable) dyads in Study 1. In other words, the findings were inconsistent with our

hypothesis in which emotion socialization of fathers are more vulnerable to interparental conflict

than emotion socialization of mothers. Interestingly, contrary to the results of Study1, Study 2

revealed that mothers and fathers were empirically distinguishable (unexchangeable) dyads in

the relation between interparental conflict, toddler emotional security, and toddler behavior

problems. Specifically, mothers seem to be more sensitive to children's emotional security than

fathers. When mothers assessed children's behavior problems, mothers considered more

partner's perceptions of child behavior than fathers. Moreover, fathers reported more

externalizing problems than mothers reported. Fathers might interpret toddlers' ordinary

situations as confirmation of their belief which toddlers misbehave, while mothers might believe

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tantrums are normal for toddlers. This may be because some studies have suggested that mothers have more knowledge about child development than fathers (Crouter, Helms-Erikson, Updegraff, & McHale, 1999).

Why do we have different results of the omnibus test of parental distinguishability between Study 1 and Study 2? The primary reason is that different parental variables were employed in Study 1 and Study 2. The omnibus test of distinguishability was conducted based on difference of means, variances and correlations between mothers' and fathers' variables. Destructive and constructive interparental conflict variables were used in both Study 1 and Study 2, but the remaining variables (e.g., child emotional security, child behavior problems) in Study2 were different from those in Study 1 (e.g., parental emotion socialization). Parental gender difference might be magnified in Study 2 because mothers' and fathers' variables of child emotional security and child behavior problems were less correlated with mothers' and fathers' variables of parental emotion socialization. Although two studies found contrary results of parental distinguishability, possible reasons of each result were described in detail considering current study sample characteristics. Further contrary results of parental distinguishability even in the same data set suggest that robustness of spillover and crossover effects has to be interpreted carefully between mothers and fathers, considering that heterosexual parent dyads can be empirically indistinguishable. However future research should focus on parental distinguishability with larger sample size in order to provide more precise estimates of the distinguishability.

Second, comparing the impact of constructive interparental conflict with the impact of destructive interparental conflict in the family context adds new insights to the literature. Results of Study 1 showed that mothers' and fathers' destructive conflict affected their own emotion

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socialization but not partners' emotion socialization. On the other hand, mothers' and fathers' constructive conflict did not affect their own emotion socialization but affected partners' emotion socialization in a trend level. In the context of destructive conflict, both parents may lose their control on emotion with greater stress so that they may be less aware of partner's negative emotions which affects partner's unsupportive emotion socialization. In the context of constructive conflict, however, partner's emotions may have stronger impacts on the person's unsupportive emotion socialization than his/her own emotion because one can manage his/her own emotions with less stress. The less stress under constructive conflict may not be able to reduce his/her negative emotion socialization because the parent still have stress, even little. Future research needs to assess the stress level during the interparental conflict and examine how the stress level contributes to the spillover or crossover effects between conflict and emotion socialization.

In Study 2, the effects of constructive interparental conflict were much weaker than the effects of destructive interparental conflict in relation between interparental conflict, emotional security, and children's behavior problems. A possible interpretation of the finding was that parents' negative emotions in the destructive interparental conflicts might relate to perceptions of greater children's emotional insecurity and behavior problems. Further, negative emotions in the destructive parental relationship might prime parents toward negative perceptions of children. Moreover, young children's emotional security and behavior problems might be relatively more influenced by destructive conflict than by constructive conflict. Destructive conflict tactics such as yelling and crying might attract toddlers' attention than constructive conflict tactics such as listening to partner's point of view and trying to reason with partner. This result is consistent with previous findings (Cheung, Cummings, Zhang, & Davies, 2015; Davies, Martin, &

Cicchetti, 2012). In the current study, however, constructive conflict was assess by only one subscale of a conflict measurement while destructive conflict was assess by several subscales of the conflict measurement. Future study needs to assess constructive conflict by using cooperation subscale as well as resolution subscale. Using observational data for destructive and constructive conflict may further provide robust and precise evidence.

In spite of these contributions, several limitations should be noted along with suggestions for future research. First, participants of this dissertation were mostly white, married parents with high levels of education. Thus, the lack of minority, unmarried, and low-educated parents may limit generalization of findings. Second, studies of this dissertation did not include observations of parental conflict behavior. The use of parents' report for children's emotional security as well as problem behaviors may reflect a potential for inaccurate memory or response bias error as well as common source variance. Third, this cross-sectional design may have limited capability to examine causal relations between predictors and outcomes. Finally, the small sample size may preclude detecting more statistical significance of partner effects between constructive interparental conflict and parental emotion socialization. Future studies would benefit from larger sample with diverse demographic characteristics, observational methods, and longitudinal design.

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