Marital conflict and parental responses to infant negative emotions: Relations with toddler
emotional regulation

Leslie A. Frankel, Ph.D.¹, Tomo Umemura, Ph.D.², Deborah Jacobvitz, Ph.D.³, Nancy Hazen³

¹ Department of Psychological, Health and Learning Sciences, University of Houston, 491
Farish Hall, Houston, Texas 77204, USA

² Institute for Research on Children, Youth and Family, Masaryk University, Brno, Czech
Republic

³ Department of Human Development and Family Sciences, University of Texas at Austin,
Austin, TX, USA

Corresponding Author:

Leslie A. Frankel
Department of Psychological, Health and Learning Sciences
University of Houston
491 Farish Hall
Houston, Texas 77204
Phone: 713-743-3999
Email: Lafrankel@uh.edu

ACKNOWLEDGEMENTS

The authors wish to thank Dr. Amy Roetzel Mintz for her development and oversight of observational coding of toddler emotional expressivity.

This research was supported by Grant SBR-9212990 from the National Science Foundation and Grant 3332 from the Hogg Foundation for Mental Health. The second author is supported by the Program of Employment of Best Young Scientists for International Cooperation Empowerment (grant number CZ.1.07/2.3.00/30.0037), European Social Fund, and the state budget of the Czech Republic.

1. Introduction

Children's development of the ability to regulate their emotional distress enables them to cope with frustration, fear, and anxiety, so they may effectively explore their environment and engage in positive social interactions (Cole, Michel, & Teti, 1994). Although young children's ability to regulate negative emotion is influenced by their inborn temperament (Goldsmith, et al., 1987), the family environment is also recognized as a major contributor to children's emotional expressivity. According to family systems theory, the marital and parent-child subsystems are interdependent predictors of toddlers' later emotionality (Cox & Paley, 1997); for example, marital conflict can spill over to create increased tension and negativity in parent-child interactions (Cummings & Davies, 1994) and increase risk for insecure attachment (Cox, Paley, & Harter, 2001; Frosch, Mangelsdorf, & McHale, 2000). Research indicates that children's emotional dysregulation has been linked to both marital conflict (Katz & Gottman, 1993) and to negative patterns of parent-child interaction, including negative emotional socialization (Eisenberg, Cumberland, & Spinrad, 1998). However, studies have not yet examined whether marital conflict and both mothers' and fathers' emotional socialization of their infants predict children's later emotional expressivity. Moreover, emotional dysregulation includes not only underregulation of emotions, characterized by frequent display of negative emotions, but also overregulation or suppression of emotions, characterized by flat affect or emotional withdrawal (Cole, et al., 1994); yet little is known about family antecedents of flat/withdrawn affect in young children (Martins, Soares, Martins, Tereno, & Osório, 2012). Thus, the goal of the present study is to investigate the unique contributions and interactions of marital conflict and both parents' emotional socialization during infancy to predicting their toddlers' later negative and flat emotional expressivity in family interactions.

1.1. The Influence of Marital Conflict on Infants' Emotional Expressivity

Numerous studies done with older children indicate that marital conflict often has particularly deleterious effects on children's emotional expressivity and regulation (Katz & Gottman, 1993). Marital conflict is also likely to have negative effects on the development of emotion regulation in infancy; for example, in one study, infants whose parents reported high levels of conflict displayed poorer emotion regulation (Porter, Wouden-Miller, Silva, & Porter, 2003). Studies with older children indicate that marital conflict can have *direct* effects on children's emotional development when children witness marital conflict, as well as *indirect* effects through spillover of tension from the marital relationship to parent-child interactions (Cummings & Davies, 1994; Erel & Burman, 1995). However, few studies have examined the pathways that connect marital conflict to emotion regulation and expression in infancy.

Several studies have found that simply observing marital conflict can be stressful to infants, leading to emotional dysregulation. For example, infants scanned using fMRI while sleeping showed greater neural responses to angry vocal tones when mothers reported higher marital conflict, indicating that these infants had been primed by previous experiences of high levels of marital conflict between their parents to experience future negative tones more intensely (Graham, Fisher, & Pfeifer, 2013). Although few studies have examined the relation of marital conflict to emotional expressivity in infants and toddlers, results of one study indicated that infants showed more negative emotions when parents were engaged in destructive conflict with each other than when they were involved in constructive conflict (Du Rocher Schudlich, White, Fleischhauer, & Fitzgerald, 2011). In addition, parents' reports of verbally aggressive marital conflict, in combination with reports that infants were exposed to marital conflict, have been associated with higher levels of infants' withdrawn emotion regulation (Crockenberg,

Leerkes, & Lekka, 2007). These studies suggest that direct exposure to marital conflict during infancy is associated with higher levels of both negative and flat/withdrawn emotional expressivity.

There is also considerable evidence that parents' distress due to high marital conflict can spill over into their interactions with their children, possibly leading to greater emotional dysregulation in their children (Erel & Burman, 1995; Katz & Gottman, 1996). However, the study by Crockenberg and colleagues, (2007), cited above, is the only study we know of that has examined direct versus indirect relations between marital conflict and infant emotionality.

Although results of this study indicated that infants' withdrawn emotionality was directly predicted by their exposure to aggressive marital conflict, maternal caregiving quality did not mediate this relation. Although the extent of fathers' caregiving moderated the relation between marital conflict and infant withdrawal, father-infant interaction was not examined, so indirect effects for fathers could not be assessed.

Inclusion of fathers may be particularly important since spillover effects from marital conflict to parenting have often been found to affect fathers more than mothers, a phenomenon termed the fathering vulnerability hypothesis (Goeke-Morey & Mark Cummings, 2007). For example, lower sensitivity (Owen & Cox, 1997) and lower synchrony (Lundy, 2002) in parent-infant interactions has been found to mediate the relation between marital conflict and insecure attachment for fathers, but not for mothers. This may be because mothers are usually primary caregivers and as such, they may be less able to withdraw from the parenting relationship than fathers (Crockenberg, et al., 2007), and may even become more invested in parenting to compensate for decreased marital quality (Wang & Crane, 2001).

1.2. Parents' Distressed Responses to Infants' Negative Emotions

The development of infants' ability to regulate their negative emotions is highly related to the quality of their early interactions with their caregivers (Kopp, 1989). Caregivers' sensitivity to infant distress has been found to predict infant's later security of attachment to the caregiver (van IJzendoorn, 1995), which has in turn been linked with more effective emotion regulation during early childhood (Gilliom, Shaw, Beck, Schonberg, & Lukon, 2002). But what if parents display distressed emotions themselves when they respond to their infant's emotional distress? Numerous studies of emotional socialization done with older (preschool or school-aged) children using self-report measures have shown that when parents report responding to children's emotional distress by displaying emotional distress themselves, children show greater emotional negativity and dysregulation (Buck, 1984; Eisenberg & Fabes, 1994; Fabes, Leonard, Kupanoff, & Martin, 2001). Surprisingly, however, very little research has examined how parents' distressed responses to their infants' distress relate to their infants' distress relate to their children's later emotion expressivity, even though parents' distressed responses may have an even greater impact during infancy than later in childhood.

Infants may not understand the meaning of their parents' verbalizations, but they do react to the emotional tone of the parents' nonverbal communications, including their facial expressions and voice tone (Mumme, Fernald, & Herrera, 1996; Sorce, Emde, Campos, & Klinnert, 1985). Thus, if an infant pulls a vase off the table and hurts himself, and the parent rushes to pick the child up and says, "It's okay, your okay", but uses an agitated tone of voice and displays an alarmed or angry facial expression, the infant is unlikely to be comforted. Rather, the parents' distress may signal to the infant that he or she has good reason to be upset, serving as type of social referencing (Campos, Sorce, Emde, & Svejda, 2013). Moreover, distressed parental responses do not help children learn to regulate their own distressed emotions (Fabes, et

al., 2001). Thus, when parents display emotional distress to their infants' own displays of distress, their children should be more likely to display greater negative affect in toddlerhood.

Alternatively, if they had a history of having parents become upset with their displays of negativity, toddlers may learn to suppress their expression of negative emotions, displaying over-regulated, flat/withdrawn affect instead. In fact, attachment researchers have theorized that children with an insecure-avoidant relationship should be more likely to show this pattern (Cassidy, 1994). Few studies have examined caregiving patterns that are associated with flat/withdrawn affect, perhaps because it is difficult to assess when the absence of emotion is indicative of dysregulation (Martins, et al., 2012). In one recent study, however, infants' over-regulated flat affect was found to be related to both avoidant attachment and to less emotionally responsive mother-infant interaction (Martins, et al., 2012). Crockenberg and colleagues (2007) also found links between negative maternal behavior and infants' withdrawn emotionality.

Fathers' responses to children's negative emotions have also been largely neglected by researchers, particularly during infancy. Fathers may serve a different role than mothers in socializing children's expression of negative emotions and fostering their emotion regulation. Whereas mothers may socialize children primarily in the context of caregiving, fathers may childrendo so primarily in the context of play (Umemura, Jacobvitz, Messina, & Hazen, 2013). Fathers often arouse their child's emotions when playing and then help calm the child down (Hazen, McFarland, Jacobvitz, & Boyd-Soisson, 2010), which may provide practice in emotional regulation for infants and toddlers (Grossmann, Grossmann, Fremmer-Bombik, Kindler, & Scheuerer-Englisch, 2002). Thus, if fathers respond to infant negative emotion with distressed responses, this could be particularly dysregulating, leading to greater toddler negative or flat/withdrawn affect.

1.3 Parents' distressed responses to children's negative emotions as mediators or moderators of the relation between marital conflict and toddlers' emotional expressivity.

Marital conflict and parents' distressed responses to infants' negative emotions may affect the later development of toddlers' later emotional expressivity in a variety of ways. First, both marital conflict and parents' distressed responses to their infants' may have direct, independent effects, such that infants who experience higher marital conflict and whose parents respond to their distress by showing distress themselves should be likely to show more negative and flat/withdrawn affect as toddlers. Secondly, since stress from the conflictual marriage may spill over to parent-infant interactions, parents' distressed responses to their infants may mediate the relation between marital conflict and toddlers' negative and flat/withdrawn affect. Finally, parents' distressed responses may moderate the effects of marital conflict on infant emotional expressivity. Children might be at greatest risk for developing higher negative and flat/withdrawn affect when they have parents who are both high in marital conflict and highly likely to respond with distress to their infants' negative emotions. The increased emotional stress infants feel from directly observing their parents' marital conflict may be compounded by having their parents respond to their emotional distress with their own distress. Conversely, the deleterious effects of marital conflict might be buffered by parents who are able to respond calmly and appropriately to their infants' distress rather than becoming distressed themselves. Thus, we expect that toddlers' negative and flat/withdrawn affect should be highest when both marital conflict and parents' distressed responses to infant negative emotion are highest; and their negative and flat/withdrawn affect should be lowest when marital conflict and parents' distressed responses to infant negative emotion are lowest.

1.4. The Present Study

The purpose of the present study was to examine the relation of parents' marital conflict, assessed when their child was 8 and 24 months old, and parents' distressed responses to their infant's negative emotions at 8 and 24 months, in addition to interactions between parents' marital conflict and their distressed responses, as predictors of their toddler's negative and flat/withdrawn affect at 24 months. It is particularly important to study the interplay of these family interactions during infancy, because parents' emotional responses and the family's emotional climate during this period lay the groundwork for the child's development of emotion regulation in the preschool years and through adulthood (Thompson & Meyer, 2007), yet there is a dearth of research examining both marital conflict and parents' responses to their infants' emotions as predictors of their children's later emotional expressivity.

We extend the existing research in several ways. First, we examine both mothers' and fathers' negative responses to their infants' negative and flat emotions. Although past studies have found more spillover from marital conflict to parenting for fathers than mothers, those studies have mainly examined parenting sensitivity rather than parents' emotionally distressed responses to infants' display of negative emotions. It is possible that greater spillover for mothers may occur for distressed rather than sensitive (or generally insensitive) responses to an infant. Even though mothers experiencing high marital conflict may be more likely than fathers experiencing marital conflict to respond promptly to an infants' cries by picking up the baby and using comforting words, they may still show signs of nonverbal emotional distress in their voice tones and body language. Secondly, we examine possible moderating effects of parents' distressed responses to their infants on the effects of marital conflict, as well as examining parents' distressed responses as a possible mediator. Finally, we examine family antecedents of

toddlers' flat emotionality, as well as their negative emotionality. Over-regulated, withdrawn affect in toddlers limits their engagement with their environment, but although it has been linked to both exposure to marital conflict (Crockenberg, et al., 2007) and to less sensitive and responsive parenting (Crockenberg, et al., 2007; Martins, et al., 2012) we know very little about possible differences in the family antecedents of flat versus negative affect.

We hypothesize that 1) marital conflict at 8 months will predict marital conflict at 24 months, which will in turn predict toddlers' negative and flat/withdrawn affect directly, 2) parents who report higher levels of marital conflict will show more distressed responses to infants' negative emotions, and in turn, higher ratings of parents' distressed responsiveness will predict toddler's greater negative and flat/withdrawn affect at 24 months, and 3) marital conflict and parents' distressed responses at 24 months will interact in predicting toddlers' negative and flat/withdrawn affect, such that they will be highest when both marital conflict and parents' distressed responses are high and lowest when both are low. Thus, we anticipate that both marital conflict and parents' distressed responses to their infants' negative emotions will be independently and directly related to their toddlers' negative and flat/withdrawn affect, and in addition, parent's distressed responses to their infants' negative emotions will both mediate and moderate the relation of marital conflict to toddler's negative and flat/withdrawn affect. Based on past research, we further expect that these hypotheses will hold for both mothers and fathers, but based on the fathering vulnerability hypothesis, spillover effects from marital conflict to distressed parental responses may be greater for fathers than mothers (Goeke-Morey & Mark Cummings, 2007; Lundy, 2002; Owen & Cox, 1997).

2. Methods

2.1. Participants

Participants were 125 couples who were recruited to participate in a longitudinal study that followed couples from the third trimester of pregnancy before the birth of their first child until that child reached 7 years of age, 96 of whom have complete data for all measures included in the present study. The couples were recruited through birthing classes, newspaper ads, press releases, flyers distributed to maternity stores, and public service radio announcements. As compensation, participants received a \$50 savings bond for participation in each phase of the study, as well as an infant T-shirt, audiotapes of lullabies, and a copy of their videotaped interaction. Couples qualified to be in the study if they were living together and the female partner was in her third trimester of pregnancy. Ninety-five percent of these couples were married at the time of recruitment. The mean age of parents was 29.0 for mothers and 31.5 for fathers. The sample was mostly Caucasian (82%), with the remaining 18% of the sample comprised of 9% Latino, 3% African American, and 6% other ethnicities (Native American, Middle Eastern and Indian). The median family income for the sample ranged from \$30,000-\$45,000, with only 7% reporting family earnings of less than \$15,000. The majority of the sample reported having some school experience past high school (69% had attended college and 60% had at least a bachelor's degree). Infants were 56% male and were all full term and of normal birth weight.

At the 8 month phase, the 121 families remained in the study. At the 24-month phase, 108 families remained in the sample. Of the 17 families who left, 12 had moved, three were too busy to participate, and two could not be located. An additional 12 families had divorced, leaving 96 families available to participate. By 24 months, families with lower incomes (under \$30,000 at the prenatal phase) were more likely to drop out compared with families with higher

incomes, $\chi^2(4, N = 123) = 16.72, p < .01$. Also, mothers and fathers who were younger were more likely to have dropped out compared to older parents, (odds ratio [OR] = 1.12 for mothers and 1.11 for fathers, both p 's < .05).

2.2. Procedures

Data presented in the current study were collected during the parents' third trimester of pregnancy and when the child was 6 weeks, 8 months and 24 months old. Upon the birth of their child, mothers were mailed an infant temperament assessment, the Infant Behavioral Questionnaire (IBQ), and were asked to fill it out when their child was 6 weeks old. Mothers and fathers each completed the Braiker and Kelly (1979) measure of relationship quality when their infant was 8 and 24 months old.

When infants were 8 months old, mother and fathers were observed separately for 30-40 minutes during home visits while playing with their infants, changing their infant's clothing, and feeding their infant. Feeding and clothing changes were observed because they are everyday occurrences yet are often stressful for infants and parents. Interactions were counterbalanced so that half of the children interacted with their mother first and half with their father first. Mothers' and fathers' reactions to their infants' distress was coded from these videotaped interactions. Five videotapes had to be discarded due to missing audio.

Families first visited a laboratory playroom to participate in videotaped dyadic mother-child and father-child interactions. Both interactions involved 20-25 minutes of free play in a playroom containing developmentally appropriate toys. Parents were instructed to play with their child as they normally would, followed by 5 minutes of cleanup. Afterwards, the parent and child completed two problem-solving tasks in a different room. The tasks were designed to be difficult for the child in order to elicit parental assistance. Mothers and fathers completed several different

tasks, which included putting together nested cups, removing a snack from a clear tube by using connected Bristle Blocks, using a brick to lift a lever inside of a box in order to retrieve another snack, and completing a sorting puzzle. Interactions were randomly counterbalanced such that half of the families had fathers play first, whereas the other half had mothers start first. These videotaped interactions were used to code parents' distressed reactions to their toddlers.

Approximately two weeks later, mother, father, and child participated in videotaped triadic family interactions at their homes. Parents were given 30 minutes to complete a Q-sort task concerning attitudes about parenting, to give their child a snack, and to change the child's clothes. In the Q-sort task, both parents were asked to come to an agreement about how each of the Q-sort items should be classified. The purpose of the Q-sort task was to require the parents to complete an adult task while simultaneously caring for their child, a common situation in the daily lives of parents with toddlers. Parents were told that they could complete the tasks in any order, as long as tasks were completed within 30 minutes. If the parents finished the tasks in less than 30 minutes, the family then completed a challenging peg sorting game during the time that remained. Toddlers' emotional expressivity was rated from the videotaped triadic interactions.

2.3. Measures

2.3.1. Marital conflict. Marital conflict was measured using a validated subscale from the Braiker and Kelly (1979) measure of relationship quality. The original measure consists of four subscales (conflict, love, ambivalence and maintenance) derived from 25 items that participants rate on a 9-point Likert scale from "not at all" to "very much" (Braiker & Kelley, 1979). The conflict scale consists of five items that assess the amount and intensity of conflict in the marital relationship (e.g., "How often do you and your partner argue with one another"). The conflict scale was used because it has been found to be an important predictor of relationship

quality (Kelly, Huston, & Cate, 1985) and has been previously related to children's emotion regulation in toddlerhood (Belsky, Youngblade, Rovine, & Volling, 1991). Previous studies have found Cronbach's alphas for the Braiker-Kelly conflict scale between .61 and .92 across mothers and fathers the third trimester of pregnancy of a child until the third year of life (Belsky, et al., 1991). The present study also found similar levels of Cronbach's alphas from the third trimester of pregnancy until 24 months, ranging from .76 to .88 for mothers and from .72 to .83 for fathers. Since mothers' and fathers' conflict scores were highly correlated ($r = .54$ at 8 months and $r = .47$ at 24 months), they were combined in the present study to simplify data analysis.

2.3.2. Infant temperament. Mothers completed the Infant Behavior Questionnaire (IBQ, Rothbart, 1981) when their infant was 6 weeks old. This measure includes 94 items assessing infants' activity level, smiling and laughter, fear, distress to limitations, soothability, and duration of orienting, each rated on a 7-point Likert scale. We created a composite scale of negative reactivity by subtracting the standardized positive reactivity score from the negative reactivity score, following Rothbart's instructions (Rothbart, 1981, 1986). The Cronbach's alpha for the composite scale was .77.

2.3.3. Parents' distressed responses to infant and toddler negative emotions. Parents' responses to their children's negative emotions were rated using the Parents' Responses to Children's Emotions Rating Scales (PRCERS) (Boyd-Soisson, 2002), an observational rating system based on scales from the self-report Parental Coping with Children's Negative Emotions Questionnaire (CCNES; Fabes, Eisenberg, & Bernzweig, 1990). Each of the 7-point Likert rating scales assessed the degree to which parents responded to their child's negative emotions in a way that was distressed, harsh, minimizing, or sensitive. Parents' responses to their infants' negative

emotions were coded using the Parents' Responses to Infants' Emotions Rating Scale, an observation rating system adapted by the first author from the PRCERS to be developmentally appropriate for infants. Only distressed reactions were included in the present study, because we hypothesized that they would predict toddler's negative and flat/withdrawn affect, yet have been understudied. In addition, in parent-infant interactions, punitive responses were too low frequency to be coded reliably, and minimizing responses (e.g., "Oh, what is the big deal? You're fine.") were primarily verbal and thus unlikely to be experienced by infants as minimizing their feelings.

In both coding systems, *distressed responses* were coded on a scale from 1 to 7, with a parent receiving a 1 for not showing any distress in response to their child's displays of negative emotion and a score of 7 for consistently showing highly distressed responses. Distressed responses focus only on parents' nonverbal displays of emotional distress, that is, the extent to which they display anger, stress, frustration, or anxiety in their voice tone or movement, rather than on parents' verbalizations. A score of 1 indicates the absence of parental distress, whereas a score of 7 reveals frequent displays of parental frustration, stress, or anger displayed in voice tone (e.g., speaking more rapidly, raising one's voice, using an agitated voice tone) or body language (e.g., wringing one's hands, burying one's face in one's hands, trembling, handling the child abruptly).

Two teams of coders were trained by the first author. The 8-month-old tapes were coded by one primary coder and two additional coders who double-coded 70% of the tapes (intraclass correlation = .75). The 24-month-old tapes were coded by a different primary coder and one additional coder who double-coded 34% of the tapes (intraclass correlation = .77).

2.3.4. Toddler's emotional expressivity. Toddler emotional expressivity was rated using the Toddler Emotional Adjustment Coding System (Roetzel, 2007). Coders were trained to rate toddlers' emotional expressivity during the triadic (mother-father-child) interaction at 24 months. Each of the following emotions was rated on a 7-point scale (with 7 indicating that the emotion was displayed frequently and at a high intensity): anxiety, distressed vocalization, anger/aggression, self-comfort, and flat/withdrawn affect. *Anxiety* ratings were based on the extent to which the child showed anxious behaviors, including restlessness, distress, repetitive behaviors, inability to focus and inability to control negative emotional states. The scale also accounted for visual indicators such as furrowing of brows and tension in the body. *Distressed vocalization* ratings indicate the extent to which the child cried or whined. Whining behaviors scored lower than crying behavior. The frequency, severity, volume of these vocalizations played a large role in ratings for this scale. *Anger/Aggression* ratings indicate the extent to which the child showed angry, aggressive, and defiant behaviors. Children who scored highest on this scale frequently displayed anger or physical aggression through actions such as kicking or biting their toys, their parents, or themselves. *Self-comfort and self-soothing behavior* ratings indicate the extent to which children showed self-soothing behaviors such as sucking their thumbs, twisting their hair, or repetitive behaviors. Children who scored highest on this scale showed self-soothing behaviors so extreme that they might even cause pain (e.g., twisting or pulling at their own hair). *Flat/withdrawn affect* ratings indicated the extent to which the child lacked emotional expression, particularly in contexts in which displays of negative or positive emotion would be expected. The highest ratings for this scale were given when a child seemed frozen and highly withdrawn throughout the interaction.

One primary coder, who did not rate any of the parent-child interactions, rated all of the tapes. A second coder coded 50% of the tapes. Average intraclass correlations were .84 for anxiety, .87 for distressed vocalization, .91 for aggression/defiance, .90 for self-soothing behaviors, and .88 for flat/withdrawn affect. A principal components analyses of these scales revealed two factors with an eigenvalue > 1 ; one included all of the scales except flat/withdrawn affect ($\lambda = 2.73$), accounting for 54.5% of the variance, and one including only flat/withdrawn affect, ($\lambda = 1.12$), accounting for 22.5% of the variance. A composite variable for negative affect was created by summing scores for anxiety, distressed vocalization, aggression/defiance, and self-soothing (Cronbach's $\alpha = .88$). Because only 25% of children showed flat/withdrawn affect during our observations and the distribution of the scores was positively skewed, we created a new dichotomous variable for flat/withdrawn affect (0 = children who did not show any flat/withdrawn affect and therefore were classified as 1; 1 = children who showed some characteristics of flat/withdrawn affect and therefore were classified as greater than 1).

3. Results

3.1. Data Analysis Plan

Descriptive statistics and correlations among the study variables are presented in Table 1. We conducted structural equation modeling (SEM) using Mplus (Muthén & Muthén, 1998-2014). The endogenous variable of the model presented in Figure 1 was children's negative affect at 24 months at 24 months, and the endogenous variable of the model presented in Figure 2 was flat/withdrawn affect at 24 months. In both models, maternal distressed responses to child negative emotion at 24 months, paternal distressed responses to child negative emotion at 24 months, and marital conflict at 24 months lead directly to the endogenous variable. We also included interaction effects between maternal distressed responses to child negative emotions

and marital conflict at 24 months, and between paternal distressed responses to child negative emotion and marital conflict at 24 months (in Figure 1 and Figure 2, these interactions are denoted as lines with black dots). In addition, marital conflict at 8 months leads to both maternal and paternal distressed responses to child negative emotion at 8 months as well as to marital conflict at 24 months. Maternal and paternal distressed responses to child negative emotion at 8 months lead to each of their distressed responses to child negative emotion at 24 months. Finally, we controlled for the association between children's temperament and children's negative and flat/withdrawn affect and the association between family income and maternal distressed responses to child negative emotion at 24 months, because these associations were significantly correlated (see Table 1). Because certain variables in the study have a different number of missing participants, we conducted multiple imputations using Mplus prior to running the SEM analysis. When dealing with missing data, the multiple imputation technique is considered less biased, compared to listwise or pairwise deletion techniques (Enders, 2013).

Fit indices for the models were examined to determine whether the models fits the data, using the comparative fit index (CFI; values above .90 indicate a good fit) (Bentler, 1990), the root-mean-square error of approximation (RMSEA; values lower than .08 indicate a good fit, (Browne, Cudeck, & Bollen, 1993; Steiger, 1990), and the χ^2/df ratio (less than 3 indicates a good model fit (Kline, 2005). Regarding our models, the fit indices showed excellent model fit, CFI = .99, RMSEA = .02, $\chi^2/29 = 1.03$ for the model with negative affect and CFI = .91, RMSEA = .08, $\chi^2/24 = 1.71$ for the model with flat/withdrawn affect.

Table 1.

Descriptive Statistics and Correlation Coefficients among Study Variables

Variables	1	2	3	4	5	6	7	8	9	10	<i>M</i>	(<i>SD</i>)	min. – max.
1 Marital conflict at 8 months											4.25	(1.06)	2.00 – 6.60
2 Marital conflict at 24 months	.78***										4.30	(1.21)	2.30 – 6.80
3 Maternal distressed responses at 8 months	.21*	.36***									3.36	(1.18)	1.00 – 7.00
4 Paternal distressed responses at 8 months	.01	.12	.20*								3.41	(1.28)	1.00 – 7.00
5 Maternal distressed responses at 24 months	.09	.01	.21*	-.03							2.36	(1.21)	1.00 – 7.00
6 Paternal distressed responses at 24 months	-.03	-.07	.08	.12	.40***						2.50	(1.33)	1.00 – 7.00
7 Child negative affect at 24 months	.27*	.22*	.24*	.24*	.23*	.17					2.94	(1.40)	1.00 – 7.00
8 Child flat/withdrawn affect at 24 months	.04	.14	-.01	-.07	-.17	-.03	.16				25%		0 – 1
9 Child temperament	-.06	-.04	.10	.09	.13	.16	.24*	-.00			.49	(1.68)	-3.17 – 5.65
10 Child gender (Female = 1; male = 0)	.04	-.02	-.15	-.02	-.05	-.01	-.10	-.08	.04		44% female		0 – 1
11 Family income	.00	.04	.09	.13	-.32**	-.11	-.05	.03	-.07	.05	Median: \$30,000-\$45,000		

Notes. Min. = Minimum; Max. = Maximum. We used a maternal report of negative reactivity at 6 weeks as child temperament. *** $p < .001$. ** $p < .01$. * $p < .05$.

3.2. Longitudinal Path Analyses Predicting Toddlers' Negative and Flat/Withdrawn Affect

Regarding direct effects, the results of both SEM analyses revealed that marital conflict at 8 months was related to mothers' distressed responses to their children's negative emotions at 8 months, but not to fathers' distressed responses at 8 months. Mothers' distressed responses to their children's negative emotions at 8 months predicted mothers' distressed responses at 24 months, whereas fathers' distressed responses at 8 months did not predict his distressed responses at 24 months. Marital conflict at 24 months was related to both toddler negative affect at 24 months (Figure 1) and toddler flat/withdrawn affect at 24 months (Figure 2), independent of children's temperament. Mothers' distressed responses to their children's negative emotion at 24 months were related to children's negative affect independent of children's temperament, but were not associated with children's flat/withdrawn affect. Fathers' distressed responses to their children's negative emotion at 24 months were related to neither children's negative affect nor flat/withdrawn affect at 24 months.

To examine indirect effects of the paths, we used the Sobel test (or the Delta method in Mplus, (MacKinnon, 2008)). The indirect path from marital conflict at 8 months through marital conflict at 24 months to children's negative affect at 24 months was significant, $b = .25$, $Z = 2.47$, $p = .014$, (Figure 1), as was the indirect path from marital conflict at 8 months through marital conflict at 24 months to children's flat/withdrawn affect at 24 months, $b = .22$, $Z = 2.00$, $p = .045$ (Figure 2). All the other indirect effects (e.g., from marital conflict at 8 months through parents' distressed responses to child negative emotion at 8 months through parents' distressed responses at 24 months to children's negative affect at 24 months) were not statistically significant, indicating that parents' distressed responses to their children's negative emotions did not mediate the relation between marital conflict and toddlers' negative or flat/withdrawn affect

Figure 1. The longitudinal structural equation model predicting negative affect. Numbers indicate unstandardized coefficients (standard errors) and standardized coefficients. Solid lines indicate significant coefficients, and dashed lines indicate non-significant coefficients. We used a maternal report of negative reactivity at 6 weeks as child temperament. *** $p < .001$. ** $p < .01$. * $p < .05$

Figure 2. The longitudinal structural equation model predicting flat/withdrawn affect. Numbers indicate unstandardized coefficients (standard errors). We did not present standardized coefficients for this model, because the endogenous variable is dichotomous. Solid lines indicate significant coefficients, and dashed lines indicate non-significant coefficients. *** $p < .001$. ** $p < .01$. * $p < .05$

Regarding interactions, independent of child temperament, the interaction effect between marital conflict at 24 months and fathers' distressed responses to their children's negative emotion at 24 months was significantly related to toddler negative affect at 24 months. The result of the interaction is presented in Figure 3, in which *high/low* paternal distressed responses to child negative emotion and marital conflict indicate one standard deviation *above/below* their means. As expected, toddler negative affect was highest when both marital conflict and their fathers' distressed responses to their negative emotions was highest. Simple slope analyses revealed that when marital conflict was high, fathers distressed responses to child negative emotions were related to higher toddler negative affect. When, maternal conflict was low, fathers' distressed responses to child negative emotions were unrelated to their toddlers' negative affect. No other interaction effects were significant.

Figure 3. Interaction effects between marital conflict and paternal distressed responses to toddler negative emotion at 24 months on children's negative affect at 24 months. High/low marital conflict and paternal distressed responses indicate one standard deviation above/below their means.

4. Discussion

As hypothesized, we found that greater marital conflict at 8 months predicted greater marital conflict at 24 months, which in turn, directly predicted greater flat/withdrawn and negative affect in toddlerhood, even after controlling for children's reactive temperament, child gender, family income, and both parents' distressed responses to their children's negative emotions at 8 and 24 months. Contrary to our prediction, toddlers' flat/withdrawn affect was predicted *only* by marital conflict. However, we found partial support for our hypothesis that parents' distressed responses to their children's negative emotions would relate to toddlers' negative affect at 24 months: Mothers', but not fathers, distressed responses at 24 months were related to toddlers' negative affect even after controlling for marital conflict and all of the control variables. However, father's distressed responses did interact with marital conflict to predict toddlers' negative affect at 24 months. Specifically, fathers' distressed responses were related to increased negative affect in toddlers only when marital conflict was high, so that toddler's negative affect was highest when both marital conflict and fathers' distressed responses were high. Thus, whereas toddlers' flat/withdrawn affect at 24 months was predicted only by marital conflict at 8 and 24 months, their negative affect was predicted independently by marital conflict, by mothers' distressed responses to their negative emotions, and by fathers' distressed responses to their negative emotions under conditions of high marital conflict.

4.1. Maternal Conflict and Toddlers' Emotional Expressivity

As predicted, we found that toddlers who experienced higher marital conflict during infancy and toddlerhood were more likely to show both increased negative emotions and increased flat/withdrawn affect during toddlerhood. This finding is consistent with a small but growing body of literature indicating that the infants' exposure to marital conflict may directly

effect their development of emotion regulation and expressivity. Previous studies have found infants' exposure to marital conflict to be linked to infants' increased negative emotional expressivity (Du Rocher Schudlich, et al., 2011), as well as their increased emotional withdrawal (Crockenberg, et al., 2007). Our findings extend that research by examining marital conflict longitudinally as a predictor of both negative and flat/withdrawn affect in toddlerhood.

However, we found little evidence for spillover effects from marital conflict to parenting (Erel & Burman, 1995). We did find that marital conflict assessed when infants were 8 months old was related to mothers', but not fathers', distressed responses to their infants' expression of negative emotions. This suggests some spillover for mothers but not fathers, contrary to the fathering vulnerability hypothesis (Goeke-Morey & Mark Cummings, 2007). However, marital conflict and parents' distressed responses at 24 months were not significantly related, and indirect paths from marital conflict through parents' distressed responses to toddlers' emotionality were not significant. Thus, marital conflict seems to have a direct relation to toddler's negative affect, rather than being mediated by parent's responses to infants' emotions. These findings were consistent with those of Crockenberg et al.(2007), who also found that marital conflict was a direct predictor of infants' withdrawn emotional responses, rather than being indirectly mediated through parenting.

4.2. Parents' Distressed Responses to Child Negative Emotions and Toddlers' Emotional Expressivity

To our knowledge, the present study is the first to longitudinally examine observational measures of both mothers' and fathers' responses to their children's negative emotions as predictors of their children's emotional expressivity, and to examine whether parents' distressed responses might moderate or mediate the relation between marital conflict and children's

1 negative and flat/withdrawn affect. Based on emotional socialization research done with older
2 children using parents' self-reports of their responses to their children's negative emotions
3 (Eisenberg, et al., 1998), we expected that when parents respond to their infants' distress by
4 showing emotional distress themselves, even if their words are positive, they are likely to
5 compound the infant's feelings of distress. Our study adds to the body of research on emotional
6 socialization by demonstrating that mothers' distressed responses to their children's negative
7 emotions are related to their toddlers' greater negative affect, independent of the effects of
8 marital conflict, infant temperament, and family income.

9   Although we did not find a main effect for fathers' distressed responses to their children's
10 negative emotions, we did find that fathers' distressed responses interacted with marital conflict
11 to predict toddler negative affect. Specifically, fathers' negative responses were related to toddler
12 negative affect only when marital conflict was high, and toddler negative affect was highest
13 when both marital conflict and fathers' distressed responses were high. Thus, low marital
14 conflict may buffer the potential negative effects of fathers' distressed responses on toddler
15 negative affect, or vice versa. In contrast, mothers' distressed responses were related to their
16 toddler's negative affect regardless of whether marital conflict was high or low. Perhaps low
17 marital conflict is more likely to buffer the effects of high distressed responses for fathers than
18 mothers because mothers usually spend much more time caring for infants and toddlers. This is
19 supported by previous research finding that fathers' marital aggression predicted infant
20 emotional dysregulation only for fathers who spent considerable time caring for their infants
21 (Crockenberg et al., 2007).

22   As noted above, flat/withdrawn affect in toddlerhood was not predicted by maternal or
23 paternal distressed responses to their infants' negative emotions, but only by marital conflict.

Our findings differed from previous studies that have found negative patterns of mother-infant interaction to be related to infants' higher levels of flat/withdrawn affect (Crockenberg, et al., 2007; Martins, et al., 2012) . This may be due to differences in the assessment of parent-child interaction used in the present study from those used in these previous studies. Although these previous studies also used observational assessments, Crockenberg et al. (2007) focused specifically on negative maternal behaviors (i.e., behaviors that were intrusive, distracted, or showed negative or mismatched affect), whereas Martins et al. (2012) coded infant-mother interactions at the dyadic level for both mothers' sensitive responsiveness to their infant and infants' responsiveness to their mothers. Our assessment of parents' distressed responses to their children's negative emotions overlaps somewhat with these other assessments, but also differs in important ways. Distressed responses are nonverbal indications of parental emotional stress that include concern, anxiety, and sadness, which may appear less negative, and possibly even as empathic, in comparison with more clearly negative emotional expressions of parental anger and frustration. In addition, parents' distressed responses to their infant's negative emotions are by definition responsive and contingent, even if they are not positive and do not serve to scaffold infants' ability to regulate their negative emotions.

It is possible that infants may be more likely to withdraw and show flat/withdrawn affect when parental behaviors are clearly negative and aversive, or when parents are uninvolved and noncontingent. These types of parental behaviors may also lead to greater negative affect in some infants, as they may become angry and frustrated with parents who are harsh and negative with them, or who ignore or misinterpret their signals. Thus, it may be that parents' distressed responses to their infants' negative emotions will lead to flat/withdrawn affect only if they are negative or noncontingent. Parental responses that show anxiety, concern, or sadness in response

to infants' display of distress may be more likely to result in infants' later development of negative affect rather than flat/withdrawn affect, since these responses may serve as a type of social referencing, signaling to the child that there is good reason for them to be upset and thus increasing their negative affect.

4.3. Limitations and Future Directions

Clearly, more research on the antecedents of infant's flat/withdrawn affect are needed, using more nuanced observation methods that assess the types of distress that parents display in response to their children's negative emotions. Parents' distress can range dramatically from empathic distress, to anxious or fearful distress, to frustrated, angry distress, and different types of distressed parental responses may lead to different patterns of child emotional dysregulation. Future studies should also examine responses that are noncontingent, such as ignoring the infant or misinterpreting the infants' cues, as these types of responses may be particularly likely to predict infants' flat/withdrawn affect.

The small sample size of the study was a clear limitation. Additionally, the sample was a relatively homogeneous sample of middle-class individuals in which mothers were the primary caregivers of the infant. It would be interesting to replicate this study with more diverse samples or with a sample of fathers who are primary caregivers, to see if the lack of significant findings generalizes, or if findings for fathers have to do with their role as secondary caregivers.

Another limitation of the current study is that marital conflict was assessed by self-report rather than observationally. Also, we did not assess the extent to which parents were fighting in front of their infants. It would be also interesting to assess the extent to which parents think that marital conflict affects how they respond to their infants. Finally, future research should investigate why some children respond to marital conflict with higher levels of negative affect, whereas others

1 respond with higher levels of flat/withdrawn affect, and if one of these types of emotional
2 responses is more protective or maladaptive for the child.

3   Results from this study imply that interventions aimed at new parents should aim to
4 reduce their marital conflict and help them find ways to resolve it. Parents should be informed
5 that even young infants experience stress when exposed to marital conflict and may be at risk for
6 the development of dysregulated emotional expressivity. In addition, parenting interventions
7 should help parents learn to respond calmly to their infants' distress. It is important for parents to
8 understand that negative emotions displayed to infants during marital interactions and in
9 response to their infants' distress can have long-term implications for their child's later
10 emotional expressivity.

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