
Capturing the Family Context of Emotion Regulation: A Family Systems Model Comparison Approach

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Abstract

Several dimensions of family functioning are recognized as formative influences on children's emotion regulation. Historically, they have been studied separately, limiting our ability to understand how they function within the family system. The present investigation tested models including family emotional climate, interparental conflict, and maternal and paternal warmth and emotional support in relation to children's emotion regulation, using a multimethod, multi-informant design with 150 ethnically diverse two-parent families. Mother, father, and child surveys and observational techniques were used to assess the variables of interest. Three theoretically informed comprehensive models were tested and compared. The best fitting model highlighted positive family climate and maternal warmth and sensitivity as unique predictors. Interparental conflict was indirectly linked with children's emotion regulation through both processes. This study underscores the value of evaluating family-wide, interparental, and parenting dimensions within a broader family systems model to gain a more complete understanding of children's regulation.

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Advances in the understanding and assessment of physiological processes have led to exciting new perspectives on children's emotions and their regulatory mechanisms. Studies investigating constructs such as cardiac vagal tone (e.g., Beauchaine, 2001), event-related potentials (e.g., Lewis, Granic, & Lamm, 2006), and hypothalamic–pituitary–adrenal functioning (e.g., Blair, Granger, & Razza, 2005) are beginning to hone in on the biological bases of children's emotional self-regulation. However, as we “zoom in” on these microanalytic processes, it is easy to lose sight of the bigger picture: Children's experience, expression, and management of emotion develop in an interpersonal context, and we do not have an adequate understanding of how the family—the earliest and most potent interpersonal context—shapes children's emotion regulation.

Theory and research have identified several family factors that play a formative role in children's emotion socialization, including parental responses to their children's affect, the family emotional climate, and interparental functioning (Morris, Silk, Steinberg, Myers, & Robinson, 2007; Thompson & Meyer, 2007). However, most of the research on family influences on children's emotion regulation has focused on parenting practices (Morris et al., 2007), whereas the less studied broader family factors have typically been examined apart from parenting practices. A family systems perspective likens the family to a living organism, highlighting the importance of studying it as a whole, the interdependence of subsystems functioning, and consequently, the notion that investigations of portions of the family are by definition, incomplete (Cox & Paley, 1997; P. Minuchin, 1985). As such, the extant literature on children's emotion regulation reflects a family context dissected into constituent parts. Thus, important questions remain about the interplay of different family processes, and the degree to which broader dimensions of the family (i.e., interparental, family-wide) account for variation in children's emotion regulation beyond what is explained by parent–child relationships.

Family Correlates of Children's Emotion Regulation

Guided by family systems theory, the present study sought to provide a more comprehensive investigation of family dynamics related to children's emotion regulation using a multimethod, multi-informant design. By evaluating

salient dimensions of the parent–child relationship, whole-family functioning, and the interparental relationship, it was possible to evaluate three theoretical models representing different perspectives of the roles that parent–child, interparental, and whole-family processes for children’s emotion regulation. First, we provide a brief review of findings related to each facet of family functioning.

Parents’ warm, supportive responses to children’s emotions. The manner in which parents respond to children’s emotional expressions has an important socializing role in the family (Denham, 1998). Parents who are sensitive, supportive, and receptive to children’s emotional experiences create nurturing context for children to learn adaptive emotion regulation skills (e.g., Grusec, 2011; Ramsden & Hubbard, 2002). Although fathers’ emotional support is considerably less studied, available research suggests that the association between parental supportiveness and children’s emotion regulation is typically consistent for mothers and fathers (e.g., Davidov & Grusec, 2006; Eisenberg et al., 1999). In the few studies that include fathers, mothers and fathers typically have been evaluated in separate analyses and so it is not clear to what extent they have unique or additive effects. An exception is found in a study by Eiden, Edwards, and Leonard (2007), who simultaneously investigated mothers’ and fathers’ warm, emotionally sensitive parenting. They found that only mothers’ behavior was related to children’s self-regulation, which was operationalized as observed effortful control and internalization of maternal and paternal directives. However, the generalizability of these findings is not clear because 130 of the 227 families sampled included a parent with a diagnosis of alcohol abuse or dependence, and most of the alcohol-abusing parents were fathers.

The family emotional climate. The frequency and intensity of positive and negative expressiveness in the family, as well as the quality of family relationships as a whole contribute to the emotional climate of a family. Family patterns of expression of positive and negative affect are thought to model “emotion rules” that contribute to the socialization of emotions (Halberstadt, 1991, Thompson & Meyer, 2007). Also, family relationships that are positive and cohesive family environment sets a tone of acceptance for children to experience and learn about their emotional experiences; whereas, hostile, critical, and negative family relations may instead discourage children from soliciting guidance for their emotional needs (Fosco & Grych, 2007; Thompson & Meyer, 2007). Positivity in the family is consistently linked with children’s emotion regulation (Eisenberg et al., 2005; Halberstadt & Eaton, 2002), whereas findings that family negativity and tension undermine children’s emotion regulation have some support (e.g., Eisenberg et al., 2001), albeit

inconsistent (Halberstadt & Eaton, 2002). Historically, measurement of the emotional climate has relied on one parent's description of the family or observed dyadic interactions of parent and child, each of which captures only a portion of the family climate. A more accurate account of the emotional climate is found by soliciting multiple perspectives on family dynamics or observing family interactions that include both parents (Thompson & Meyer, 2007).

Interparental conflict. Chronic, hostile, and poorly resolved conflicts between parents may model poor affect regulation, or heighten children's emotional distress, undermining children's ability to manage their own emotions. A few studies have demonstrated that children who are exposed to more hostile parental discord tend to exhibit greater emotional distress and behavioral dysregulation, as well as heightened emotional reactivity, and exhibit greater psychophysiological dysregulation (Davies & Cummings, 1998; Davies, Sturge-Apple, Cicchetti, Manning, & Zale, 2009; Koss et al., 2011), supporting a links between interparental conflict and children's emotion regulation. Alternatively, other evidence suggests that interparental conflict may have indirect effects on children's emotion regulation, mediated through other family processes such as parenting or broader family functioning. High levels of marital conflict consistently are related to poorer parent-child relationships (Erel & Burman, 1995; Fosco & Grych, 2010), and also have been linked with problems with broader family functioning (Lindahl, Malik, Kaczynski, & Simons, 2004); and so it may be that interparental discord has its impact on children's emotion regulation by affecting other aspects of family functioning.

Toward a Cohesive Family Model for Children's Emotion Regulation

There is a need to test more comprehensive models of family processes that promote (or undermine) children's emotion regulation. Previous models outlined by Halberstadt (1991), Eisenberg, Spinrad, and Cumberland (1998), and Morris et al. (2007) recognize that parent responses to children's emotions and patterns of emotional expression (emotional climate) serve as unique channels of emotion socialization. The current study draws on family systems theory to these existing models of family socialization processes. First, both maternal and paternal parenting practices were evaluated as unique factors among broader family processes. Second, interparental functioning, and conflict in particular, is distinguished from the broader family emotional climate, based on findings that each have distinct implications for child functioning (Fosco & Grych, 2007). Finally, maternal and paternal

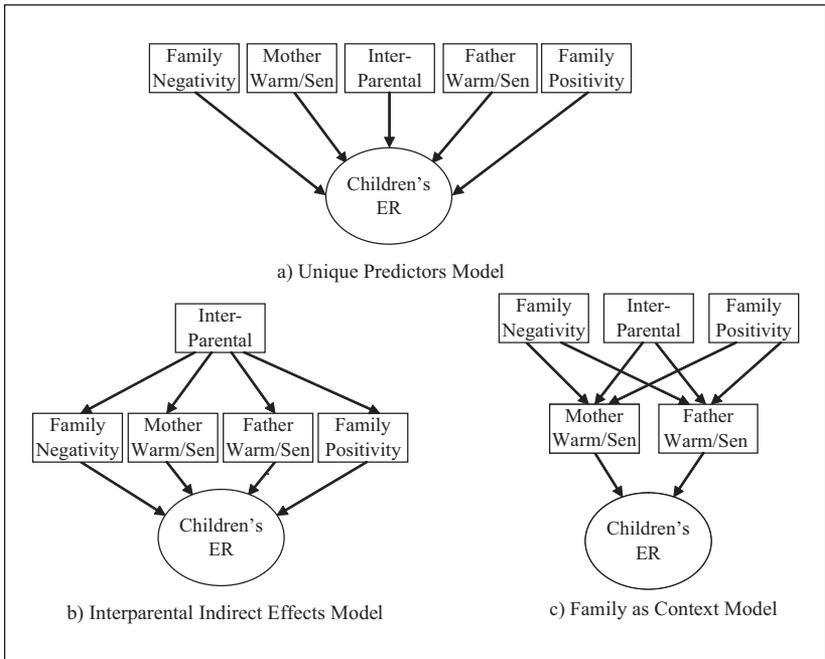


Figure 1. Three proposed theoretical models

parenting, interparental conflict, and family positivity and cohesion and family negativity were evaluated within the same model by comparing three theoretical models that posited different patterns of direct and indirect effects in an effort to determine which one best captures the nature of relationships between parent–child, interparental, and whole-family processes.

The goals of this study were to implement a model comparison strategy to better understand how these key family processes function within the family context. Using this strategy, this study proposes three theoretical models to explain the interplay among parent–child, interparental, and whole-family processes, and their implications for children’s emotion regulation. Then, model comparisons were conducted to determine which theoretical model offered the best representation of the data. Based on this finding, the preferred model was examined for interpretation. The three theoretical models are described below (see Figure 1).

A unique predictors model. The unique predictors model conceptualizes each dimension of family functioning as a unique correlate of children’s

emotion regulation, accounting for the interrelations among the dimensions of family functioning. Accordingly, this conceptualization is most consistent with previous theoretical models (e.g., Morris et al., 2007). Evidence exists in support of direct linkages of multiple domains of family functioning and child emotion regulation. Ramsden and Hubbard (2002) found that mothers' reports of family negativity and comfort with children's distress had unique associations with children's emotion regulation. This pattern of results was also found for mothers and fathers (tested separately) in relation to children's internalizing problems (Stocker, Richmond, Rhoades, & Kiang, 2007). Finally, Pendry and Adam (2007) found that marital functioning and maternal warmth and involvement were unique correlates with children's cortisol levels. Building on these separate studies, this model tests the unique associations of mother's sensitivity, father's sensitivity, family positivity, family negativity, and interparental conflict with children's emotion regulation.

An interparental indirect effects model. The second model tested the possibility that interparental conflict may be indirectly associated with children's emotion regulation, through associations with family-level and parent-child dynamics. This perspective is consistent with family systems theorists' view of the interparental subsystem as serving a leadership or executive function in the family (S. Minuchin, 1974). In this view, interparental conflict would be disruptive to family functioning, by leading to more harsh, insensitive, and ineffective parenting practices (Cui & Conger, 2008; Keller, Cummings, Davies, & Mitchell, 2008; Sturge-Apple, Davies, Cicchetti, & Manning, 2010) and a deteriorated emotional climate, characterized by greater family-wide negativity and tension and less frequent positivity and cohesion (Fosco & Grych, 2007; Lindahl et al., 2004). Support for this model would highlight interparental conflict as an organizing factor for other dimensions of family functioning that are directly linked with children's emotion regulation.

A family as context model. This model emphasizes the mother- and father-child subsystems as central factors for children's emotion regulation, and conceptualizes interparental conflict and the emotional climate as a broader family context in which parenting practices function. This perspective suggests that mothers' and fathers' parenting practices are the most proximal (and the only direct) predictors of children's emotion regulation but are shaped by the quality of marital and family-wide functioning. This perspective draws on a "spill-over" perspective (e.g., Erel & Burman, 1995) in which interparental functioning and family climate affect parents' interactions with their children, which in turn shapes children's emotion regulation. Support for this model would indicate that parents in more harmonious homes, who are able to resolve their own conflicts, are more likely to provide emotionally

supportive responses to their children's distress, which facilitates children's adaptive emotion regulation.

Method

Participants

Participants were recruited from the fourth and fifth grades at several ethnically diverse elementary schools in a midsized, Midwestern city. Of the 266 families contacted to participate in the study, 150 (56%) agreed to participate. Children (49% girls; median age 10 years, range 8-12 years) were living with two parents who had been cohabiting for at least 2 years ($M = 12.91$, $SD = 5.21$). Eighty-five percent of parents were married. Children identified their ethnicity as Caucasian (55.0%), African American (28.2%), Latino (6.0%), Asian (1.3%), Native American (0.7%), Biracial (6.7%), and Other (2.2%). Family income was reported in \$10,000 increments and ranged from less than \$10,000 per year to more than \$90,000 per year (mean: \$50,000-60,000).

Procedure

Children and their parents came in to a university research lab together to participate in the study. Consent was obtained from each parent and assent was obtained from each child participant. Participants were given packets of questionnaires to complete independently over the duration of their visit. Trained research assistants were present while family members were responding to survey items to answer questions that arose.

During their visit, families also participated in four video recorded interaction tasks designed to reflect a wide range of family situations. The first task was a 5-minute unstructured family game activity, designed to provide an index of positive family interactions. This was followed by an 8-minute family planning task where each member independently thought of activities they would like to do on a weekend day, followed by instructions to try to come to an agreement about how to spend the day together as a family. Later in the lab visit, families participated in a 10-minute parental disagreement task where parents were asked to discuss and resolve topics they rated as areas of disagreement about parenting the participating child. Children were present in the room but seated about 10 feet away and given no instructions about whether or not they should participate in the interaction; magazines were available to read if they chose to. This task was intended to elicit parental disagreements that may occur in children's presence to assess patterns of

conflict that children are exposed to at home. The fourth task was a 5-minute postconflict discussion where children were invited to join their parents at the table and have a family conversation about the discussion that just took place. Each task was coded using global codes on a 5-point scale from *very low* (1) to *high* (5) using the System for Coding Interactions of Family Functioning (SCIFF; Lindahl & Malik, 2000). Separate teams of coders were used for each task. Coders received 30 hours of training on the SCIFF using tapes provided by Kristin Lindahl. Interobserver agreement was calculated on a random selection of 25% of the families and is reported below. Each pair of coders rated half of the interactions for each task.

Measures

Parents' Responses to Children's Emotions

Parental warmth. Mothers and fathers completed the Warmth subscale of the Perspectives on Child Raising (Easterbrooks & Goldberg, 1991). This 16-item subscale captures important aspects of parental warmth and affection, supportive responding to children's distress, and respect for children's feelings and opinions. Sample items include "I respect my child's opinions and encourage him or her to express them" and "I feel my child should be given comfort and understanding when he or she is scared or upset." Higher scores on this scale reflected greater parental warmth. Internal consistency for mothers ($\alpha = .72$) and fathers ($\alpha = .71$) was adequate.

Parental emotional support. Observational data of mothers' and fathers' emotional support were collected from the family game task, the family planning task, and the postconflict cool down task. Supportiveness during the parental conflict discussion was not included to keep measures of parenting and interparental conflict distinct. Emotional support was coded to capture how "sensitive, or attuned, the parent is to the child's emotional state, needs, and perspective, and how well s/he modifies his/her behavior accordingly" (Lindahl & Malik, 2000, p. 25) over the course of the three family interaction tasks. Higher scores reflected parental responses that were more sensitive to children's expressions of negative affect, validating or open to discussing children's feelings, or motivated to help the child feel more comfortable. Interobserver agreement indicated adequate reliability (intraclass $r_s = .66-.93$). Scores were summed across the three tasks to form a single indicator of emotional support for each parent.

Mothers reported and observed parenting were correlated ($r = .28, p < .01$) as were fathers ($r = .44, p < .01$). Thus, composite variables for mothers and fathers were created by computing z scores and summing them.

Interparental Conflict

Child report. Children's reports of parental conflict were assessed with the Conflict Properties Scale from the Children's Perceptions of Interparental Conflict Questionnaire (CPIC; Grych, Seid, & Fincham, 1992). This scale consists of 19 items scored so that higher values reflect more frequent, intense, and poorly resolved interparental conflict. This scale has been shown to correlate with parental reports of conflict (e.g., $r_s = .30-.39$; Grych et al., 1992) and was reliable in the present sample ($\alpha = .87$).

Parent report. Parents also completed the Conflicts and Problem-Solving Scale (Kerig, 1996). This scale was designed to capture the same dimensions as the CPIC, and higher scores indicated more frequent, intense, and poorly resolved interparental conflict. Parents' ratings of their own and their partners' behaviors were summed to produce one score for interparental conflict from each adult (e.g., mothers' scores would be a sum of their ratings of self and partner behaviors). Mothers ($\alpha = .90$) and fathers ($\alpha = .91$) reports of interparental conflict had adequate reliability.

Observed measure. Observations of marital communication during the parent disagreement task were coded using the SCIFF (Lindahl & Malik, 2000). Parents' communication was coded to capture the degree to which parents conveyed respect, listening, disclosure, and constructive communication with one another. This was reverse-scored so that higher values reflected poorer communication, including defensiveness, anger, and disrespect, and low scores indicated emotional closeness, respect, openness, and warmth. Observers had adequate consistency (intraclass $r = .91$).

A single index of interparental conflict was created from child, mother, father, and observed assessments. These dimensions all were significantly correlated with each other ($r_s = .19-.55$, $p < .05$). Thus, a single composite was created by summing z scores of each measure.

Family Emotional Climate. The family emotional climate was conceptualized in two major dimensions: family-wide positivity and family-wide negativity. As described below, a family positivity composite was formed by summing z -score values of parent and observed indices ($r = .26$, $p < .01$). However, observed family negativity was uncorrelated with mother and father reports. Thus, family-only parent reports were used to make use of multiple perspectives on family negativity.

Parent reports of emotional climate. Mothers and fathers completed the Self Expressiveness in the Family Questionnaire, short form (SEFQ; Halberstadt, Cassidy, Stifter, Parke, & Fox, 1995), which assesses the frequency with which they express positive and negative affect toward other family members. The Negative Expressiveness Scale includes 12 items and is weighted

toward what Halberstadt and Eaton (2002) labeled “negative-dominant” emotions such as anger, criticism, and disapproval. The Positive Expressiveness Scale has 12 items including expressions of affection and love, telling family members they are happy, and praising others. The SEFQ has been shown to correlate significantly with observations of parents’ emotional expressiveness in lab settings (Halberstadt et al., 1995) and had adequate reliability for mothers and fathers in the present sample ($\alpha s = .80-.89$). Higher scores on each scale reflected more expression of positivity or negativity. Mother and father reports of positive ($r = .23, p < .01$) and negative ($r = .22, p < .01$) expressiveness were correlated, allowing them to be combined to form a single parent report composite.

Observed positive emotional climate. The family game, planning, and post-conflict tasks were coded for cohesion and positivity using the SCIFF (Lindahl & Malik, 2000). The family cohesion code was rated so that higher values reflected greater family unity and togetherness, closeness, warmth, and affection. Family cohesion had adequate interobserver agreement on all tasks (intraclass $r s = .75-.95$) and was summed to create a composite score. Family positivity also was coded to capture the degree to which positive affect was expressed by family members during the activity, the degree to which members appeared to enjoy the interaction, and body language expressive of happiness, satisfaction, or comfort. A composite score was made of scores from the family game and postconflict discussion tasks (intraclass $r = .91$); however, because of inadequate observer agreement, the family planning task (intraclass $r = .50$) was not included. Family positivity and cohesion composite scores were highly correlated ($r = .70, p < .01$) and were combined to form a single observed positive emotional climate variable.

Children’s Emotion Regulation. Although definitions of emotion regulation vary, it is commonly viewed as one’s ability to modulate emotions through processes of heightening, maintaining, and suppressing emotions in a manner conducive with one’s goals (e.g., Cole, Martin, & Dennis, 2004; Thompson, 1994). Adaptive emotion regulation in this study is conceptualized as a balance between adequate control of excessive or inappropriate expressions of emotions (e.g., “losing control when angry”) and the ability to express one’s emotional needs, rather than suppressing emotions.

Parent report. Mothers and fathers completed the Emotion Regulation Checklist (Shields & Cicchetti, 1997). This 24-item scale was designed to capture children’s regulation of positive and negative emotions, and provides a measure of children’s ability to adaptively express emotions and to control inappropriate or excessive emotional expression (Davidov & Grusec, 2006).

Items were scored so that higher values reflected more adaptive emotion regulation. Items on the subscales of emotional expression and control were summed separately and standardized, and then these z scores were combined to give weight to the two dimensions, consistent with previous research (Davidov & Grusec, 2006). Adequate internal consistency was found for mothers' ($\alpha = .80$) and fathers' ($\alpha = .78$) reports of emotion regulation.

Child report. Children completed an 11-item version of the Trait Anger Scale (Spielberger, Jacobs, Russell, & Crane, 1983) adapted for school-age children, which has been used to assess anger regulation (see, Kinsfogel & Grych, 2004). This measure includes items measuring the frequency, intensity, and ability to appropriately manage and express angry feelings. Higher scores on this scale indicate more adaptive functioning. This measure demonstrated good internal consistency ($\alpha = .79$).

Analysis Plan

Analyses were conducted in four steps. First, means, standard deviations, and correlations were computed. Second, preliminary structural equation models were computed to evaluate each dimension of family functioning (i.e., parent-child, whole-family, and interparental) separately in relation to children's emotion regulation. These preliminary models were computed to establish their associations with the measures used in the current study and to replicate previous research. Third, the three proposed family models were computed for comparisons of model fit to arrive at the best fitting, most parsimonious model. In the final step, path coefficients were examined to determine the nature of relationships among the parent-child, interparental, and family climate and links with children's emotion regulation.

Structural equation models were computed using a mixed latent and manifest structural model, to draw from some of the advantages of latent variable modeling while operating within the limits of statistical power available. Given its centrality for the study, children's emotion regulation was represented as a latent variable to minimize measurement error, and each family dimension was treated as a manifest variable. Structural models were computed using AMOS 16.0 (Arbuckle, 2007). For each model, standard measures of fit are reported, including the chi-square (χ^2), comparative fit index (CFI), nonnormed or Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA). CFI values greater than .95, TLI values greater than .90, RMSEA values less than 0.5, and a nonsignificant χ^2 (or a ratio of $\chi^2/df < 3.0$) indicate good fit (e.g., Hu & Bentler, 1999).

Table 1. Correlations Between Composite Variables and Indicators of Children's Emotion Regulation

	1	2	3	4	5	6	7	8
1. Emotion regulation (mom)	—							
2. Emotion regulation (dad)	.53**	—						
3. Anger regulation (child)	.32**	.32**	—					
4. Mom warmth/emotional support	.36**	.38**	.24**	—				
5. Dad warmth/emotional support	.15	.32**	.31**	.45**	—			
6. Interparental conflict	-.21*	-.18	-.22*	-.23*	-.33**	—		
7. Family positivity	.31**	.38**	.29**	.53**	.57**	-.29**	—	
8. Family negativity	-.28**	-.18*	-.10	-.21*	-.18*	.60**	-.20*	—
<i>M</i>	13.21	12.68	32.50	0.01	0.01	-0.01	0.07	88.61
<i>SD</i>	1.48	1.46	6.07	1.61	1.71	2.81	2.04	21.67

* $p < .05$. ** $p < .01$.

Results

Correlations, means, and standard deviations for children's emotion regulation, maternal and paternal warmth and sensitivity, interparental conflict, and emotional climate are presented in Table 1. Consistent with the family systems' principle of interdependency, all the dimensions of family functioning were significantly correlated, and nearly all the correlations between these variables and the three reports of emotional regulation were significant. Children exhibited more adaptive emotion regulation when their mothers and fathers expressed greater warmth and sensitivity to their affect, and their family emotional climate was more cohesive and positive. In contrast, children exposed to more hostile, frequent interparental conflict tended to exhibit less adaptive emotion regulation as did those in negative, critical family environments.

Preliminary Models

Preliminary models were then computed for each dimension of family functioning separately. In the first model, mothers' and fathers' warmth and

Table 2. Model Fit Indicators and Model Comparisons

Model	<i>df</i>	χ^2	χ^2/df	CFI	TLI	RMSEA	AIC
1. Unique predictors	10	13.954	1.395	.99	.96	.052	65.954
2. Interparental indirect effects	11	14.398	1.309	.99	.97	.046	64.398
3. Family as context	13	23.921	1.840	.96	.92	.076	101.725

Note: CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; AIC = Akaike information criterion.

emotional support were evaluated in the same model, yielding marginal fit with the data, $\chi^2(4) = 10.008, p = .04; \chi^2/df = 2.502; CFI = .96; TLI = .89; RMSEA = .10$. Mothers' ($\beta = .40, p < .01$) and fathers' ($\beta = .20, p < .06$) warm, supportive responses to children's emotions were each uniquely associated with more adaptive emotion regulation. The next model evaluated positive and negative family emotional climate as predictors of children's emotion regulation, $\chi^2(4) = 3.509, p = .48; \chi^2/df = 0.877; CFI = 1.00; TLI = 1.00; RMSEA = .00$. Both dimensions of the emotional climate were unique predictors, suggesting that children in families with higher levels of positivity and cohesion ($\beta = .44, p < .01$) and lower levels of criticism and negative affect ($\beta = -.21, p < .05$) had the highest levels of adaptive emotion regulation. Finally, a model testing interparental conflict and children's emotion regulation was computed, $\chi^2(1) = 1.732, p = .42; \chi^2/df = 0.866; CFI = 1.00; TLI = 1.00; RMSEA = .00$. Children exposed to more chronic and severe interparental conflict tended to exhibit less adaptive emotion regulation ($\beta = -.30, p < .05$). These findings established that each dimension of family functioning was associated with children's emotion regulation.

Model Comparison

In the third step, model comparisons were conducted for the three proposed structural equation models. Fit statistics for the three models are presented in Table 2. Because the three models were not all nested, but all included the same variables, model comparisons were conducted using the Akaike information criterion (AIC), a relative fit index in which lower values indicate better, more parsimonious fit with the data (Kline, 2002). AIC values indicated that the interparental indirect effects model (64.398) had the best relative fit of the three models, followed by the unique predictors model (65.954), and the family as context model (101.725). Additional comparisons were conducted for the unique predictors model and the indirect effects model by recomputing them as nested models, while accounting for all estimated model associations. Comparison of the two models— $\chi^2(1) = 0.444,$

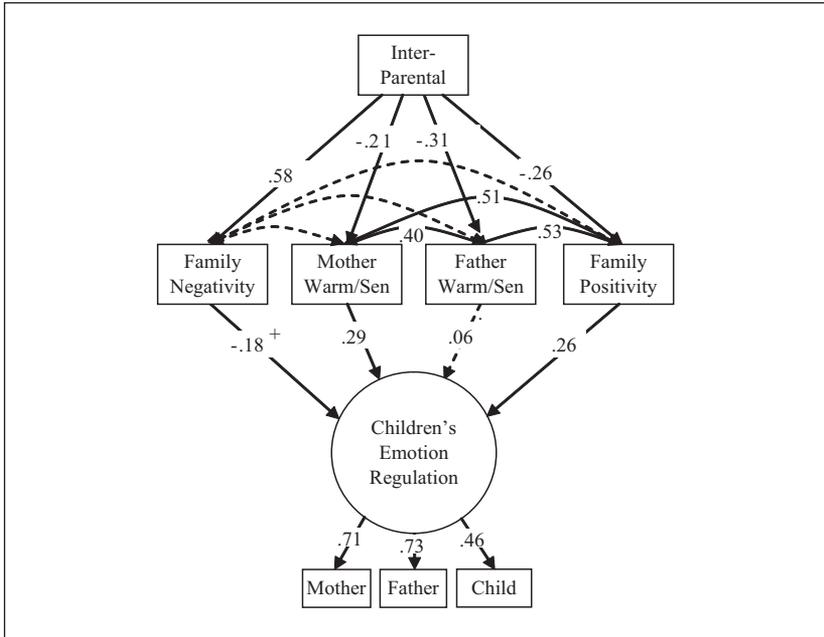


Figure 2. Interparental indirect effects model

Note: $\chi^2(11) = 14.398$, $p = .16$; $\chi^2/df = 1.309$; comparative fit index = .99; Tucker-Lewis index = .97; root mean square error of approximation = .046; Akaike information criterion = 64.398. Paths represented by solid lines are significant: $p < .05$, ⁺ $p < .06$.

ns—indicated that there was no significant change in overall model fit when the path between interparental conflict and children's emotion regulation is omitted, suggesting that the interparental indirect effects model as the best fitting, most parsimonious model.

The Final Model

Then, the interparental indirect effects model was examined. The central proposition in this model was that the interparental relationship acts as an executive subsystem that has broad implications for the parents' warmth and emotional support of children's emotions and the family's emotional climate more broadly, and has an indirect association with emotion regulation through the other domains of family functioning. As shown in Figure 2, interparental conflict was linked with less warm and emotionally sensitive

parenting for mothers ($\beta = -.21, p < .01$) and fathers ($\beta = -.31, p < .01$), less family positivity and cohesion ($\beta = -.26, p < .01$), and greater family-wide negativity ($\beta = .58, p < .01$). In turn, mother's warmth and sensitivity ($\beta = .29, p < .05$) and family-wide positivity and cohesion ($\beta = .26, p < .05$) were each linked with more adaptive emotion regulation and family negativity was marginally associated with less adaptive emotion regulation ($\beta = -.18, p < .06$). To evaluate the indirect effect of interparental conflict on children's emotion regulation, bias-corrected bootstrap confidence intervals were computed (MacKinnon, Lockwood, & Williams, 2004; Shrout & Bolger, 2002). These analyses indicated that interparental conflict had a significant overall indirect relationship with emotion regulation (standardized indirect effect = $-.25$ [95% confidence interval = $-.42, -.11$; $p < .01$]). Specific standardized indirect effects were computed for family positivity and cohesion (.07) and maternal warmth (.06); however, AMOS software is unable to test the statistical significance of specific pathways for models that estimate multiple indirect effects. Therefore, the models were recomputed with three of four paths predicting children's emotion regulation constrained to zero to create a single indirect effect estimate. In both estimates, indirect effects were statistically significant ($p < .01$).

Discussion

This study provided a systematic evaluation of the links between different family processes and children's emotion regulation within a comprehensive model of the family context. Consistent with the family systems principle of interdependence (Cox & Paley, 1997; P. Minuchin, 1985), the various dimensions of family functioning were intercorrelated. These family processes were assessed via observation of interactions involving children and both of their parents, as well as self-reports from children, mothers, and fathers; the use of multiple sources of data provides confidence that interrelations among the various dimensions of family functioning were not a product of monomethod variance.

Three models positing different patterns of associations among these family processes and children's emotion regulation were tested and compared. Although all three provided an adequate fit with the data, model comparisons favored the interparental indirect effects model, which conceptualized interparental conflict as indirectly associated with emotion regulation through the more proximal predictors of warm, emotionally sensitive parenting, and the family emotional climate. This finding was consistent with a structural family systems view of the interparental subsystem as having a leadership role in

the family (S. Minuchin, 1974), and the notion that disruptions to this subsystem can have reverberations throughout the family (Fosco & Grych, 2010; Lindahl et al., 2004). Accordingly, discordant interparental functioning was associated with less warm, emotionally sensitive responses to children's emotions for mothers and fathers, as well as disruption to the family emotional climate, indexed by greater family hostility and tension and less positivity among family members. In turn, mothers' emotional support and family positivity and cohesion were directly associated with children's emotion regulation. Thus, the current findings are consistent with previous research that suggest that parental warmth and emotional support and the emotional climate serve as distinct channels of socialization for children's emotion regulation. However, the current findings depart from previous conceptualizations of family emotion socialization processes (e.g., Morris et al., 2007) by distinguishing between interparental conflict and whole-family emotional expression. In doing so, the current study provides a clearer picture of the distinct roles that interparental conflict and whole-family climate have for children's emotion regulation. Moreover, this study integrates perspectives across several studies that investigate aspects of the family in isolation and suggests that the implications of particular aspects of the family may be different when investigated in a broader family context. For example, fathers' warm, emotionally supportive responses to children's emotions were associated with emotion regulation in the baseline model, but when whole-family and interparental dimensions were added to the model, this association became nonsignificant. Excluding broader family processes may provide an inaccurate view of how emotion regulation is socialized in the family (P. Minuchin, 1985).

The direct effects of mothers' warm, emotionally supportive responses to children's affect and family positivity and cohesion highlight the importance of parenting and emotional climate processes for children's emotion regulation. These dimensions have been consistent predictors of emotional regulation when they are assessed separately in cross-sectional and longitudinal studies (e.g., Eisenberg et al., 1999; Eisenberg et al., 2005), and the current findings indicate that each has a unique association with children's emotional functioning. Interestingly, the relationships found for fathers' emotionally supportive responding to children's emotions and family negativity with children's emotion regulation did not remain significant when evaluated in the full model. This may suggest that these dimensions are less salient factors for children's emotion regulation when considered within a broader family context, and are consistent with previous findings that fathers' responses to children's emotions had no direct relationship with children's self-regulation in the context of mothers' warmth and sensitivity (Eiden et al., 2007).

Understanding how fathers' parenting practices are related to children's emotion regulation warrants further investigation. The stronger relations for mothers' support may be a result of mothers spending more time with their children and thus more available to respond when their children experience negative affect, or that they may provide more frequent emotional support than fathers (McElwain, Halberstadt, & Volling, 2007). Previous research investigating family negativity has documented inconsistent relations with emotion regulation (Halberstadt & Eaton, 2002). Eisenberg et al. (2001) found unique relations between mothers' negative expressiveness and children's regulation, but these findings did not hold over time (Eisenberg et al., 2003). It may be that negativity plays a less significant role in community samples than it might in clinically distressed or violent families where negative affect may play a more prominent role.

Limitations and Future Directions

The cross-sectional data used in the current study only capture a "snapshot" in time for the families and children in the study, and longitudinal data are needed to examine the direction of effects on family dynamics and children's emotion regulation. However, previous longitudinal studies support the assumed direction of effects for children in this age range. Eisenberg et al. (1999) found that parental responses to their 8- to 10-year-old children were linked to change in children's emotion regulation at 10 to 12 years, whereas children's emotional functioning did not predict parenting during this time span. Similarly, another study by Eisenberg et al. (2005) found that mothers' positive emotional expressiveness and warmth when children were 9 years old predicted changes in children's emotional control at age 11.

Another important developmental and family systems issue is that this study is grounded in middle childhood, and does not account for contributions of early developmental processes in current functioning, such as infant temperament, early child-parent attachment, and early parenting practices. Evidence suggests that early regulation and temperament shapes parenting practices and later emotion regulation (Davidov & Grusec, 2006; Eisenberg et al., 1999).

Although the current study represents a broader family constellation than prior research, it is limited to the mother-father-child triad. Thus, it does not capture the role that other family members may play in promoting children's emotion regulation. For example, siblings also may have a formative influence on children's emotion regulation (Padilla-Walker, Harper, & Jensen, 2010) and undoubtedly contribute to family emotional climate. The inclusion of siblings would provide a more complete understanding of family dynamics in children's emotion regulation.

Finally, the current study conceptualized emotion regulation as a global construct derived of mother, father, and child reports. Future research incorporating more diversity in measurements, such as observational and physiological measures, would provide a more complete index of regulation.

Conclusion

Although physiological processes provide an important window for explaining how children experience and modulate emotions, the present findings indicate that attention to family processes promotes a richer and more complete understanding of emotion regulation. By examining multiple family subsystems and the interdependence between those subsystems, this study was able to place family and parent–child dynamics into a broader framework that better accounts for variability in children’s emotion regulation. This advances current perspectives on children’s emotion regulation by accounting for multiple dimensions of family functioning simultaneously, which more accurately reflects the environment in which children’s regulation develops. In addition, the current findings have implications for clinical practice in support of a family systems conceptualization of children’s emotion regulation. Although it is common practice to focus exclusively on parent–child dynamics in interventions, our findings support the practice of assessing and intervening on interparental and whole-family functioning as a means of enhancing family health in the promotion of children’s emotion regulation and, ultimately, well-being.

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