Published in final edited form as:
Prev Sci. 2009 September ; 10(3): 276–285. doi:10.1007/s11121-009-0130-4.

Enhancing Coparenting, Parenting, and Child Self-Regulation: Effects of Family Foundations 1 Year after Birth

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Abstract

This study investigated whether a psycho-educational program with modest dosage (eight sessions), delivered in a universal framework through childbirth education programs and targeting the coparenting relationship would have a positive impact on observed family interaction and child behavior at 6-month follow-up (child age 1 year). One hundred sixty-nine couples, randomized to intervention and control conditions, participated in videotaped family observation tasks at pretest (during pregnancy) and at child age 1 year (2003–2007). Coparenting, parenting, couple relationship, and child self-regulatory behaviors were coded by teams of raters. Intent-to-treat analyses of program effects controlled for age, education, and social desirability. Evidence of significant ($p<0.05$) program effects at follow-up emerged in all four domains. Effect sizes ranged from 0.28 to 1.01. Targeting the coparenting relationship at the transition to parenthood represents an effective, non-stigmatizing means of promoting parenting quality and child adjustment.

Keywords

Coparenting; Childbirth education; Transition to parenting

The experience of safety, warmth, consistency, and appropriate stimulation from parents in early childhood affects the development of children's cognitive capacity and emotional and behavioral regulation. Unfortunately, this crucial period for child development coincides with a period of elevated stress for parental well-being and for the romantic relationship between parents (Belsky 1986; Cowan and Cowan 1995). Rates of depression and anxiety are elevated for new parents, and couple conflict—which has deleterious effects on child outcomes—rises substantially. Given the elevated stress of this period, researchers have frequently counseled the development of family-focused preventive interventions (Antonucci and Mikus 1988; Coiro and Emery 1998; Frosch et al. 2000; Grossman et al. 1980; NICHD Early Child Care Research Network 2000). Yet few if any prevention programs capable of achieving population-level impact on all three of the major parent-

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related risk factors—the interparental relationship, parental adjustment, and parenting—have been developed, tested, and disseminated.

This paper examines the effects of an innovative universal prevention program that aims to enhance child well-being and reduce child adjustment problems and disorders through a family approach. The program, Family Foundations (FF), is an eight-session group-format program delivered though childbirth education departments of local hospitals for expectant parents. FF is designed to diminish parental depression and improve parenting quality, largely through the enhancement of coparenting relations, in order to reduce later child problems such as aggressive and antisocial behavior, anxiety, and depression (Feinberg 2002).

A Universal Approach: Rationale and Obstacles

About one in five children ages 9–17 in the United States has a diagnosable mental health disorder (e.g., anxiety, depression, ADHD, conduct disorder, substance use disorder (Mental Health: A Report of the Surgeon General 1999). An epidemiological conundrum for preventionists is that, whereas the rate of disorder is by definition highest among the minority of the population with elevated levels of causal risk factors, the majority of “cases” often emerge from the larger subset of the population with non-elevated risk. Given this situation, adoption of universal prevention efforts applicable to most families regardless of risk is an important component of an overall public health approach (Sanders and Morawska 2006).

Although programs have been shown to be efficacious in fostering warm, competent parenting (Olds 1999), few family-focused programs are either intended to achieve or capable of achieving high penetration rates. Recruitment of families into prevention programs is notoriously difficult, especially for multiple session programs held outside the home (Meek et al. 2004). Generally, the penetration of such family-focused preventive interventions in a given target population is less than 1% (Jensen 2003), although occasionally higher [e.g., 5.9% (Saunders et al. 2003) to 17% (Spoth et al. 2007)]. Even these higher recruitment rates, however, represent a small fraction of the population.

FF’s design resolves some of these recruitment barriers. First, FF is delivered through a non-stigmatizing existing educational structure for new parents: childbirth education departments at local hospitals. About two-thirds of mothers attend childbirth education classes (Declercq et al. 2002, 2006). Second, FF is delivered during the transition to parenthood, with half the sessions before birth and half after birth. On the cusp of this transition, expectant parents appear to be especially open to learning and program involvement (Duvall 1977; Feinberg 2002). Third, FF does not focus on teaching parenting skills and attitudes, but is primarily aimed at supporting the relationship between the parents.

Targeting Coparenting

FF’s focus on the couple relationship is based on over 25 years of study demonstrating strong links between the couple relationship and parent well-being (i.e. depression), parenting quality, and child adjustment (Denton et al. 2003; Emery 1982; Erel and Burman 1995). FF targets one domain of the overall couple relationship that becomes especially important during early parenthood: the coparenting relationship. Coparenting, a multi-faceted construct, refers generally to the way that parents coordinate and support each other in their parental roles (Feinberg 2003). FF focuses on coparental support and undermining—including competition and triangulation (McHale 1995, 1997)—because these dynamics are linked to parenting and child outcomes such as externalizing and internalizing problems (Abidin and Brunner 1995; Belsky et al. 1996; Feinberg et al. 2005; Floyd and Zmich 1991).

In contrast to the overall couple relationship, coparenting relations may represent a causal mechanism in pathways to child adjustment (Margolin et al. 2001), and coparenting is more strongly related to parenting and child outcomes than the general couple or marital relationship (Abidin and Brunner 1995; Bearss and Eyberg 1998; Frosch et al. 2000). The underlying conceptual model is presented in Fig. 1; a fuller discussion of the model and the possible causal role of coparenting has been presented elsewhere (Feinberg 2003). In the model, coparenting quality impacts child outcomes directly, and this association is also mediated through both parental adjustment and parenting quality.

Parental adjustment is exhibited in multiple domains, including parental self-efficacy, stress, and depression. Each of these aspects of adjustment to the parental role has been related to actual parenting quality (Field 2000). Moreover, there is reason to believe that the quality of coparenting influences each aspect of parental adjustment. For example, support from one's partner is one of the strongest influences on parental depression (Crnic and Greenberg 1987; O'Hara and Swain 1996). Moreover, coparental support regarding one's competence as a parent (Tice 1992) is hypothesized to affect parenting through parental self-efficacy (confidence), which Teti has proposed as the "final common pathway" to disruptions in caregiver sensitivity (Teti et al. 1996). Coparenting quality is also conceptualized as influencing parenting directly. For example, undermining and competitive coparenting is likely associated with feelings of anger and resentment, which may both distract a parent from a child's needs as well as spill over to increased parenting harshness and diminished warmth (Karreman et al. 2008).

Thus, enhancing coparenting relationship quality would lead to improved parental adjustment and parenting. Most importantly, improvements in coparenting and parenting relationships should foster children's greater physiological and emotional self-regulation (Feinberg and Kan 2008). Child self-regulatory capacity is a crucial resource promoting positive mental health (Chaplin and Cole 2005), and difficulties with self-regulation are implicated in a variety of problems including disruptive and aggressive behavior, mood disorders, and substance use (Dishion and Patterson 2006; Kochanska and Aksan 2006; Skinner and Zimmer-Gembeck 2007). Although most research examining the effects of coparenting on children has focused on toddlers and older children, there is reason to expect that positive coparenting—as well as subsequent improvements in parental adjustment and parent–child relations—would affect well-being during infancy as well. For example, increased coparental support may translate into a less stressful family environment for the infant, with potentially positive effects on stress-related physiological systems (e.g., the hypothalamic–pituitary–adrenal axis).

Self-soothing behaviors are an early manifestation of self-regulatory capacity. Notably, self-soothing increases over the first few years of life (Mangelsdorf et al. 1995) and appears to be susceptible to influence from preventive intervention (van den Boom 1994). In addition, infant deployment of attention (e.g., through distraction) serves as a foundation of more complex regulatory strategies that emerge later in development (Rothbart et al. 2006). Self-soothing and attentional control may therefore mediate the effects of early preventive intervention on later child outcomes.

Family Foundations

The unique aspect of FF with respect to most other transition to parenthood programs is the focus on coparenting *per se*, rather than on the couple relationship generally, marriage promotion, father involvement, or parenting sensitivity. The bulk of the class material relates to enhancing the coparenting relationship, aligning expectant parents' expectations of each other and of parenthood, and introducing positive childrearing strategies. The focus on

coparenting—essentially asking couples to consider how they will work together supportively—permeates all material. The material on post-birth expectations introduces parents to the particular strains and difficulties they may experience after birth and the ways that these strains tend to affect coparenting. Parenting strategies include an understanding of temperament, fostering children's self-regulation, and promoting attachment security.

The class series is implemented as four prenatal classes, which serve to introduce the couple to certain themes and relationship skills, and four postnatal classes which revisit those themes once the couple has experienced life as parents and coparents. The classes are led by a male–female co-leader team in order to offer a role model for each partner. The female leader is a childbirth educator. A combination of didactic presentations, couple communication exercises, written worksheets, videotaped vignettes of other families, and group discussion is utilized.

The Current Paper

In a previous report (Feinberg and Kan 2008), intent-to-treat analyses revealed positive effects of FF at posttest (child age 6 months) on the proximal intervention target, coparental support, as well as parental adjustment (i.e., maternal depression and anxiety), the parent–child relationship, and infant self-regulatory capacity (i.e., soothability and sustained attention). This paper extends the previous report on FF intervention effects in two ways. First, all data analyzed in the prior report consisted of parent self-report. The potential biases of self-report data are well-recognized. In this paper, intervention effects on observations of family interaction are examined. Such "objective" measurement of family relationships and behavior is an important means of testing intervention effects (Feinberg and Kan 2008; Kosterman et al. 1997).

Second, interventions may have brief, transient effects on individuals and relationships, which can quickly deteriorate. The post-test effects of FF reported previously at child age 6 months may represent just such a temporary enhancement. This paper examines follow-up data collected when the infants were 1 year old regarding the proximal program target of the coparental relationship, the more general construct of couple relationship quality, parenting quality, and child self-regulatory capacity.

Method

Participants

Participants were 169 heterosexual couples that, at the time of recruitment, were expecting their first child, at least 18 years of age, and living together regardless of marital status. Participating couples resided in rural areas, towns, and small cities. Eighty-two percent of couples were married and the majority of participants (91% of mothers and 90% of fathers) were Non-Hispanic White. The remaining participants were African American, Asian, Hispanic, or other. Median annual family income was $65,000 (*SD*=$34,372), with a range of $2,500 to $162,500. Average educational attainment was 15.06 years for mothers (*SD*=1.82) and 14.51 years for fathers (*SD*=2.19), with a range of 9th grade to beyond college; 14.4% of mothers and 29.3% of fathers did not complete any post-secondary school education. Mean ages were 28.33 (*SD*=4.93) years for mothers and 29.76 (*SD*=5.58) years for fathers. The sample is generally representative of the background of families from the regions where the data were collected.

Procedure

One hundred sixty-nine couples were primarily (81%) recruited from childbirth education programs at two hospitals located in small cities, as well as through healthcare providers

(8%), advertisements/flyers (7%), word of mouth (3%), or unknown means (1%). Further details about recruitment can be found in Feinberg and Kan (2008). Data were collected between 2003 and 2007. Pretest data were collected during home interviews when mothers were pregnant (average weeks gestation=22.9, *SD*=5.3). Mothers and fathers separately completed questionnaires and engaged in videotaped interactions.

After pretest, couples were randomly assigned to intervention (*n*=89) or no-treatment control conditions (*n*=80). Data from four couples (three intervention and one control couple) were not utilized in analyses because of developmental difficulties, death of one of the parents, or congenital medical problems for the baby. Randomization yielded equivalent groups, as analyses indicated no significant differences between intervention and control group couples on a wide range of pretest variables (Feinberg and Kan 2008). The no-treatment control group couples received a brief brochure in the mail about selecting quality childcare; intervention couples received the manualized FF program consisting of four prenatal and four postnatal sessions. An observer from the project team attended and rated over 90% of intervention sessions for implementation fidelity. The observer rated the proportion of the intervention content in the manual delivered by the group leaders. Observer ratings indicated the program was implemented as planned, with an average of 95% of the curriculum content delivered. The average number of prenatal sessions attended by each couple in the intervention group was 3.2; the average number of postnatal sessions attended was 2.3. About 80% of couples attended at least three prenatal sessions, and about 60% of couples attended at least three postnatal sessions.

Follow-up (i.e., Wave 3) data collection through home visits occurred when the children were an average of 13.7 months old (*SD*=1.3). 93% of mothers and 88% of fathers participated at Wave 3. Both parents in 146 couples and only mothers in 8 couples participated.

Observational Procedures

Family interaction was videotaped at both pretest and follow-up. At pretest, expectant parents engaged in two couple relationship discussion tasks. In the first task, couples were asked to talk about their day or something that was on their mind not related to their relationship. Each partner took turns spending 6 min as the focal talker and 6 min as the listener. For the second task, couples were asked to talk for 12 min about problems in their relationship that they had rated highly from a list of desired changes. At follow-up, the couples engaged in only the second task for 10 min.

At follow-up, families engaged in two interactions as a triad. First, parents and the infant engaged in 12 min of joint free play on the floor with a limited set of toys provided by the interviewer. Parents were then asked to teach their child to accomplish a set of tasks designed to be at the limit of most infants' developmental capacity (e.g., rolling a ball back and forth with a parent, building a tower of blocks). This interaction lasted 6 min.

At pretest, five couples (in addition to the four couples whose data were not included in analyses) declined the videotaped interaction procedure, and an additional five tapes could not be coded for technical reasons. At follow up, four couples declined the videotaped interaction, eight couples completed mailed surveys, and the videotape of one family with twins was not coded. Couples who were married at pretest were more likely to complete the videotaped interactions at both waves than non-married couples (pretest: β=1.10, SE=0.47, p<0.05; follow-up: β=0.65, SE=0.33, p=0.05). Couples who refused were equally likely to be in the treatment and control groups.

Measures

Undergraduate and graduate students were trained to rate the videotapes according to a global coding system of 5- to 7-point scales. The codes for coparenting, parenting, child behavior, and dyadic couple interaction are summarized in Table 1. These codes were developed for this project or adapted from codes utilized in prior work (Biringen 2005; Britner et al. 2005; Margolin et al. 2004; McHale et al. 2001; Mills-Koonce et al. 2007; Schoppe-Sullivan et al. 2004; Zahn-Waxler et al. 1994). One experienced coder served as a criterion coder. Extensive training consisted of study of the training manual and ongoing coding tutorial sessions. Coders were blind to experimental condition. At pretest, 126 cases were coded by at least two coders, and 31 were coded by a single coder. At follow-up, separate teams of coders rated each of the four domains: coparenting and parenting behaviors were double-coded, whereas child behavior and dyadic couple behaviors were single coded (with 15% of cases coded by at least two raters to assess reliability). Percentage close agreement (i.e., a pair of scores not more than one point different) across all codes and rater combinations was 88% at pretest and 94% at follow-up (see figures for specific scales in Table 1). Correlations among variables are presented in Table 2.

Control Variables

Age, years of education, and social desirability were utilized as control variables in all analyses because these factors have been linked to parenting and the couple relationship in previous work. Participants completed a 33-item *social desirability* scale at Wave 1 (e.g., “I am always courteous, even to people who are disagreeable”) (Crowne and Marlow 1964). Alpha was 0.75 for mothers, 0.69 for fathers.

Analyses

All tests of intervention effects were conducted as intent-to-treat analyses; data from all parents who completed the follow-up were included regardless of level of program participation. Condition was coded 0 for control and 1 for intervention. For parallel behaviors by mothers and fathers, analyses were conducted as multivariate multi-level regression models using SAS Proc Mixed, with mothers’ and fathers’ scores as two dependent measures, thereby accounting for within-family dependency and yielding separate estimates for mothers and fathers. For child behavior outcomes, analyses were conducted with a general linear model regression approach using SAS Proc GLM. For couple interaction, the intervention effect was represented by the interaction of condition with wave (pretest=0, posttest=1). For variables available only at follow-up (i.e., coparenting, parenting, child behavior), the main effect of condition represented the intervention effect.

Results

Intervention Effects

Coparenting—Results of analyses of intervention effects are displayed in Table 3. For both mothers and fathers, coparental competition and triangulation showed intervention effects, with parents in the intervention condition demonstrating significantly lower levels of these behaviors than control parents ($p<0.05$ throughout this section unless otherwise stated). Intervention fathers displayed a trend toward higher levels of coparental warmth ($p<0.10$) than control fathers. Intervention mothers demonstrated significantly greater inclusion than did control mothers. Coparental cooperation was moderately skewed and was adjusted with a log transformation. Although both intervention mothers and fathers showed higher levels of coparental cooperation than control parents, the differences were not significant.

Dyadic couple interaction—After controlling for pretest levels, intervention parents showed significantly more warmth to partner and, by female partners' report, less negative communication than did control parents.

Parenting behaviors—Parenting positivity demonstrated intervention effects, with intervention parents demonstrating significantly higher levels of positive parenting than control parents. Intervention fathers demonstrated lower parental negativity than control fathers.

Child behaviors—Intervention children demonstrated significantly higher levels of self-soothing than control children. There was no significant difference between conditions for sustained attention.

Effect sizes—Effect sizes are listed in Table 3. Magnitudes of significant effects range from 0.28 to 1.01. There are moderate-sized effects in each of the four domains of outcomes. The largest effects are for warmth in the dyadic couple relationship.

Discussion

The current investigation demonstrates that a universal prevention program with moderate dosage can reduce negative coparenting among new parents, as well as promote more positive and less negative parenting, couple functioning, and child self-regulation. Key strengths of the study included successful randomization, low attrition, and an intent-to-treat analytic framework. The findings from this and a previous report (Feinberg and Kan 2008) demonstrate that a universal program can be delivered through an existing institutional niche–hospital childbirth education departments—to achieve public health impact on important problems such as postpartum depression, interparental conflict, poor parenting, and child self-regulation difficulty. This work builds on other prevention programs with couples, in particular, the Cowan's early program for couples at the transition to parenthood; although demonstrating positive effects, that program has not been replicated due to high intensity of intervention (Cowan and Cowan 1992). The focus on coparenting as a lever of change to benefit children regardless of the marital status of the couple distinguishes this work from a range of other programs, including federally sponsored marriage promotion efforts currently undergoing evaluation (Ooms and Wilson 2004).

Coparenting and Dyadic Couple Relations

Compared to control parents, program participants showed better coparenting quality on a variety of dimensions. Both mothers and fathers in the intervention demonstrated significantly lower levels of competition and triangulation compared to controls. Moreover, mothers in the intervention condition reached out to fathers and included them in play and teaching with the child more than control mothers. The aspects of coparenting that demonstrated an intervention effect in this study have been shown to impact children's externalizing and internalizing problems (Belsky et al. 1996; Feinberg et al. 2007). It may be that the combination of decreased coparental conflict and increased cohesiveness facilitates children's sense of overall emotional security, which is itself linked to child adjustment (Cummings et al. 2006; Davies and Cummings 1994, 1998).

The coparenting relationship is a subset of the overall couple relationship, and there was a parallel effect on couples' observed behavior. This effect was found for aspects of couple behaviors such as negativity and warmth which have been implicated in relationship quality and stability (Bradbury et al. 2000; Gottman and Levenson 2000; Huston et al. 2001). Surprisingly, given the program focus on coparenting, the magnitude of the effects for

warmth and positive affect in the dyadic interaction were the largest found in this study. Note that the instructions for the triadic interaction (i.e., to play and teach) facilitated positive interaction, rather than the negative interaction that is purposefully elicited in the couple conflict task. If the effects of a preventive intervention are most apparent when the individual/family is under stress, then the more stressful dyadic conflict discussion should in fact reveal intervention effects more clearly than the triadic tasks. Moreover, the results suggest that a focus on coparenting may benefit the general couple relationship. Notably, the effect sizes for couple behavior were substantially larger than the average effects reported in a recent meta-analysis for other prevention and relationship education programs with non-distressed couples: relationship satisfaction, d=0.44; relationship communication, d=−0.12 (Reardon-Anderson et al. 2005).

Parenting and Child Behaviors

Consistent with the conceptual model and hypotheses, intervention parents showed significantly more positive parenting than did control parents. The specific aspects of parenting aggregated to comprise a positive parenting composite (sensitivity, support for child exploration, and positive affect) have been linked to children's behavioral and emotional regulation (Deater-Deckard and Petrill 2004; Eisenberg et al. 2001) and cognitive development (Pacifici and Bearison 1991). Moreover, intervention fathers displayed less negativity to children than did control fathers. Evidence of enhanced parenting was accompanied by findings of positive program impact on infants' self-regulatory behavior. Compared to control children, intervention children demonstrated greater capacity for self-soothing behavior, which is an early demonstration of behavioral self-regulation. There was no intervention effect on children's sustained attention; however, raters' global impression of a child's attentional capacity may not be the best method of measuring this construct.

Limitations

Many constructs targeted by the intervention showed intervention effects, yet it is possible that generic features of the program—such as attention or time together as a couple—could be responsible for positive outcomes, as opposed to the presumed "active program ingredients." Moreover, even if the active program ingredients led to positive change in the intervention group, it is not clear from this study that the intervention effects occurred as hypothesized by the conceptual model. In other words, it is possible that intervention effects on maternal depression or on dyadic couple relationship quality may have led to enhanced coparenting, rather than the reverse. Moreover, the intervention was delivered to couples rather to families (i.e., we provided babysitting during postnatal classes so that the parents could focus on the material); this delivery format may have led to changes in dyadic couple relationship quality that only later translated into enhanced coparenting. We plan to conduct further longitudinal research to assess the pathways through which the intervention affected families.

Although the sample had a large range of education and income, the majority of participants were well-educated and middle class. This feature of the sample is in part a result of the eligibility requirements for the study which excluded young teen parents and parents who were not cohabiting or married. Moreover, there was limited racial or ethnic diversity.

Finally, the coding of coparenting, parenting, and child behavior were performed on the same triadic interactions in order to reduce participant burden. Ideally, separate triadic and parent–child dyadic interactions would be utilized to assess these constructs.

Conclusion

The results of this study suggest it is possible to foster positive coparenting among first-time parents utilizing a modest dosage of a universal psychosocial program. In addition, the current findings suggest that the program's impact goes beyond the primary target of the coparenting relationship to improve parenting and child self-regulation. Together with the findings of an earlier study demonstrating program impact on parent-reported outcomes, these results indicate that a family-focused preventive intervention at the transition to parenthood can be an effective approach for promoting positive family relationships, parent adjustment, and child development. This paper contributes to the growing evidence base regarding programs to support inter-parental relationships and family well-being during this important transition.

Acknowledgments

We are grateful to the families who participated in this study. We appreciate the assistance of Karen Newell, Sherry Turchetta, Carole Brtalik, Sharolyn Ivory, David White, Ned Hoffner, Dan Marrow, Ellen McGowan, and Kathryn Siembieda in implementing the program. We thank Jesse Boring, Carmen Hamilton, Richard Puddy, Carolyn Ransford, and Samuel Sturgeon for their assistance in conducting this study. George Howe, Mark Greenberg, James McHale, Pamela Cole, and Doug Teti provided thoughtful advice and support. This study was funded by grants from the National Institute of Child Health and Development (1 K23 HD042575) and the National Institute of Mental Health (R21 MH064125-01), Mark E. Feinberg, principal investigator.

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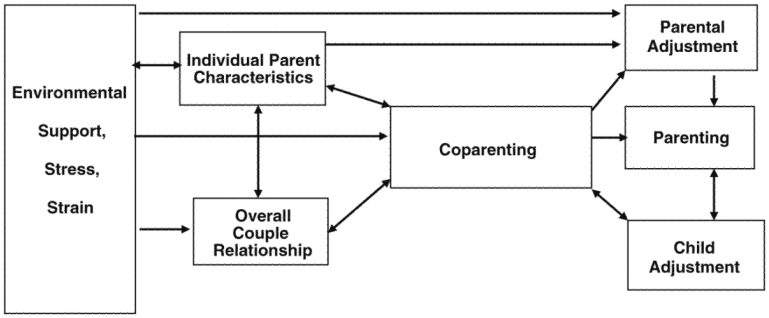

Fig. 1.
Conceptual model

Table 1

Measures, descriptive information

Behavior dimension	Brief definition	Scale range	% Close Agree[a]	Inter-rater ICC[a]	Mean (SD)	
					Mother	Father
Coparenting (triadic context)						
Competition	Competition for child attention, love	1–6	87–88	0.81/0.81	1.95 (0.82)	2.35 (0.84)
Triangulation	Use of child as pawn in partner conflict	1–5	99–100	0.44/0.75	1.03 (0.13)	1.02 (0.13)
Warmth	Caring, affection towards partner	1–7	93–95	0.80/0.87	2.57 (1.08)	2.11 (0.75)
Inclusion	Active inclusion of partner in play	1–5	98–99	0.76/0.83	3.98 (0.49)	3.53 (0.44)
Active cooperation	Overt cooperation w/ partner in play	1–5	97–98	0.72/0.71	2.77 (0.47)	2.77 (0.52)
Couple behaviors (dyadic context)						
Negative communication	Contempt, hostility, demandingness	_ [b]	78–97	0.63/0.88	0.00 (0.79)	0.00 (0.88)
Warmth to partner	Physical or verbal affection	1–7	77–85	0.80/0.76	3.80 (1.25)	3.44 (1.30)
Parenting behavior (triadic context)						
Positivity	Sensitivity, pos. affect, support exploration	_ [b]	85–99	0.73/0.73	0.00 (0.86)	0.00 (0.89)
Negativity	Irritability, anger, hostility toward child	1–7	96–99	0.72/0.69	1.08 (0.34)	1.07 (0.31)
Child behaviors (triadic context)					Child	
Self-soothing	Self-directed comforting; stroking, sucking	1–5	97	0.87	2.20 (0.73)	–
Sustained attention	Sustained involvement with objects/people	1–7	89	0.67	4.46 (0.78)	–

[a]% Close Agreement refers to percentage of all ratings that were within one point between raters; ranges are given for variables with mother and father behaviors and/or multiple codes. ICC's are given for mother behavior/father behavior

[b]Dyadic couple Negative Communication is an aggregate measure comprised of three ratings: Contempt, hostility, demandingness. Parenting Positivity is an average of three ratings: Sensitivity, Positive Parenting Affect, Support for Exploration. Ratings were standardized before the aggregate was created, yielding a mean of zero

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Table 2

Correlations among observed variables

	CComp	CTriang	CWarm	CIncl	CCoop	DNCom	DWarm	PPos	PNeg	CSooth	CAtt
Coparenting											
Competition	**0.51** **	0.09	−0.07	−0.26**	−0.28**	0.12	−0.12	−0.12	0.06	0.15***	−0.09
Triangulation	0.15***	**0.27** **	0.06	0.03	−0.05	0.05	0.16***	−0.22*	0.17***	−0.06	0.05
Warmth	−0.02	−0.13	**0.65** **	0.10	0.32**	−0.13	0.23*	0.12	0.03	−0.10	0.12
Inclusion	−0.01	−0.11	0.14	− **0.15** ***	0.27**	−0.08	0.07	0.06	0.07	0.03	−0.02
Cooperation	−0.14	−0.20*	0.40**	0.23*	**0.80** **	−0.11	0.16***	0.22*	−0.04	0.04	−0.03
Dyadic											
Neg Comm	0.11	0.13	−0.21*	0.23*	−0.14	**0.52** **	−0.20*	−0.10	0.26**	0.16***	−0.14
Warmth	−0.07	−0.05	0.16***	−0.17***	0.24**	−0.33**	**0.64** **	−0.03	−0.04	−0.06	0.21*
Parenting											
Positivity	−0.08	−0.16***	0.17***	0.01	0.11	−0.14	0.10	**0.50** **	−0.45**	−0.06	0.03
Negativity	0.04	0.03	−0.10	0.09	−0.03	0.17***	−0.12	−0.51**	**0.26** **	0.08	−0.01
Child behavior											
Self-soothing	0.06	−0.01	−0.00	0.11	−0.00	0.06	−0.08	−0.06	0.20*	–	−0.21*
Attention	−0.14	0.01	−0.04	−0.12	−0.07	0.04	0.09	0.09	−0.14***	–	–

Correlations for fathers are above the diagonal, correlations for mothers are below the diagonal, and mother–father correlations are along the diagonal in bold

* $p<0.05$

** $p<0.01$

*** $p<0.10$

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Table 3

Intervention effects on family and child behavior

Dependent measure	Mother behavior			Father behavior		
	Beta	Std error	Effect size (d)	Beta	Std error	Effect size (d)
Coparenting						
Competition	−0.29*	0.15	0.51	−0.43**	0.14	0.36
Triangulation	−0.05*	0.02	0.33	−0.06*	0.02	0.28
Warmth	−0.07	0.14	0.37	0.32***	0.19	0.10
Inclusion	0.19*	0.08	0.45	−0.04	0.08	0.08
Active cooperation	0.11	0.09	0.12	0.08	0.08	0.17
Dyadic couple behaviors						
Negative communication	−0.37*	0.16	0.48	−0.03	0.18	0.02
Warmth to partner	1.08*	0.44	0.89	0.93*	0.45	1.01
Parenting						
Positivity	0.30*	0.15	0.34	0.32*	0.15	0.45
Negativity	−0.19	0.18	0.21	−0.35*	0.17	0.60
Child behavior						
Self-soothing	0.30*	0.12	0.46			
Sustained attention	0.05	0.13	0.08			

Multilevel models utilized for variables with both mother and father behaviors; OLS regression utilized for child behavior variables. Condition status was dummy-coded with Control=0 and Intervention=1. Intervention effects for Dyadic Couple Behaviors consisted of a time×condition interaction; see text for model description

* $p<0.05$

** $p<0.01$

*** $p<0.10$