

A LONGITUDINAL ANALYSIS OF PARENTING PRACTICES, COUPLE SATISFACTION, AND CHILD BEHAVIOR PROBLEMS

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This longitudinal study examined the relationship between couple relationship satisfaction, parenting practices, parent depression, and child problem behaviors. The study participants (n = 148) were part of a larger experimental study that examined the effectiveness of a brief family-centered intervention, the Family Check-Up model. Regression analysis results indicated that our proposed model accounted for 38% of the variance in child problem behavior at Time 2, with child problem behavior and couple relationship satisfaction at child age 2 years each accounting for a significant portion of the variance in child problem behavior at age 3. Couple relationship satisfaction directly predicted child behavior problems over time. Clinical and research implications are discussed.

The relationship between couple relationship satisfaction and distress, parenting, and child outcomes is well established. Researchers have consistently demonstrated that couple distress negatively affects the partners' health, welfare, and quality of life, and is a risk factor for poor child outcomes (Cordova, Warren, & Gee, 2001; El-Sheikh & Staton, 2004; Fals-Stewart, O'Farrell, Birchler, Cordova, & Kelley, 2005). Children from high-conflict families, when compared with children from low-conflict homes, have more adjustment problems (Booth & Amato, 2001; Harold, Shelton, Goeke-Morey, & Cummings, 2004). Moreover, children of distressed couples often have poorer school performance, more behavioral problems, and greater incidence of physical illness (Cherlin et al., 1991). At the extreme end of couple conflict, children exposed to parental domestic violence have significantly higher rates of behavioral and emotional problems, poorer academic performance, lower levels of well-being, poorer physical health, and higher rates of clinical depression, anxiety, suicide ideation, drug abuse, and posttraumatic stress symptoms (Graham-Bermann & Edleson, 2001; Jouriles, Norwood, McDonald, Vincent, & Mahoney, 1996).

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The birth of a first child and negotiation of child-rearing responsibilities mark a developmental transition that is particularly influential on the couple relationship and child outcomes. Some research has demonstrated that this time period can be filled with joy and pleasure with the baby (Gottman & Notarius, 2002). Yet, in even the healthiest relationship, it is normative to experience a decrease in relationship satisfaction with the birth of the first child (Schulz, Cowan, & Cowan, 2006; Shapiro, Gottman, & Carrere, 2000). In fact, researchers estimate that one third of all divorces occur within the first 5 years of marriage, and for many couples, the trajectory toward divorce begins with the decline in the female partner's relationship satisfaction after the arrival of the first baby (Cowan & Cowan, 1992; Shapiro et al., 2000). During the transition to parenthood, couples frequently demonstrate a dramatic increase in relationship conflict in addition to a decrease in positive interactions, which result in an overall decline in couple relationship satisfaction (Belsky & Kelly, 1994; Belsky & Pensky, 1988).

Research studies that identify the predictive, moderating, and mediating variables between interparental conflict and child functioning over time are essential (Cummings & Davies, 2002). One mechanism by which couple relationship satisfaction and distress have been linked to child outcomes is through disruptions in parenting practices and family context (Ingoldsby, Shaw, Owens, & Winslow, 1999; Jouriles et al., 1996; McDonald et al., 2006; Shaw, Beck, Criss, & Schonberg, 2004). Early caregiving and subsequent parenting require coordination of two adults. The stability of a socioemotional context conducive to the formation of positive parent-child relationships is disrupted when there is relationship conflict because the prevalence of negative emotions such as anger, resentment, sadness, and fear increases. In addition, relationship conflict can disrupt the couple coordination required for effective socialization of their children, such as positive behavior support (PBS) for toddlers and young children and eventual monitoring and limit setting for children and adolescents (Dishion & Patterson, 2006). First-time parents are especially at risk for such conflict, which again is associated with negative developmental outcomes for their children over time (Knauth, 2001).

Another mechanism by which couple satisfaction and distress are linked to child outcomes is through parental depression. More studies have focused on maternal depression than on paternal depression: researchers have consistently demonstrated that children who are parented by depressed mothers are more likely to suffer from depression, anxiety, alcohol problems, and social impairment (Gross, Shaw, & Moilanen, 2008; Martins & Gaffan, 2000; Weissman, Warner, Wickramaratne, Moreau, & Olfson, 1997). Furthermore, researchers have demonstrated a strong link between parental depression (mothers and fathers), dysphoria, and couple distress. For instance, Dickstein et al. (1998) suggested that when one partner suffers from dysphoria, the couple also reports lower levels of marital satisfaction. Cummings, Keller, and Davies (2005) reported results from a study examining the effects of parental depressive symptomatology on children. They found that among a community sample of mothers and fathers, increased parental depressive symptomatology was related to increased marital conflict and insecure marital attachment, more psychological control in parenting, and multiple child problems.

Despite these significant findings, few studies have identified the unique influence of couple relationship quality, parenting practices, and parental depression on child behavior outcomes through the toddler years. Most researchers have examined families with infants, school-age children, or adolescents. Clearly, more research is needed that examines the specific contributions that couple dynamics and satisfaction, parenting practices, and parental depression have on child behavior problems during the toddler years. In addition, it is vital that the research has a longitudinal versus a cross-sectional design so that one can determine which factors and processes predict relationship satisfaction and behavioral problems over time. Identification of these unique contributions can help scientist-practitioners develop effective preventive interventions that target the couple relationship dynamics that impede couples' successful parenting, and consequently improve the parenting environment and child developmental outcomes (Schulz et al., 2006). Preventive interventions are essential particularly because many couples do not engage in couples therapy until their relationship has significantly deteriorated (Cordova et al., 2001).

This study sought to add to the extant research by using a longitudinal data set to examine the relationship between parent couple relationship satisfaction, positive parenting practices,

parent depression, and child problem behaviors through the toddler years. We hypothesized that child problem behavior and couple relationship satisfaction, measured when the child was age 2 years, would predict child problem behavior 1 year later (i.e., child age 3 years) over and above the influence of parent depression, positive parenting practices, and cumulative risk. We focused on married and cohabitating couples with at least one toddler child in an effort to better understand how couple relationship satisfaction and child behavior outcomes are related at such a crucial parenting transition and child developmental stage.

METHODS

Participants

For this study, we used data previously collected as part of a larger sample of families who participated in the Early Steps study (Dishion, 2008) described in greater detail in the Procedures section. In the original Early Steps study, researchers contacted 1,606 families with 2-year-old children at Women, Infants, and Children (WIC) centers across three U.S. study sites (i.e., Pittsburgh, PA; Eugene, OR; and Charlottesville, NC). Of the 1,606 families contacted, 879 met the study eligibility requirements (52% of the total sample in Pittsburgh, 57% in Eugene, and 49% in Charlottesville) and, of those who met study eligibility requirements, 731 (83.2%) agreed to participate in the Early Steps study (88% in Pittsburgh, 84% in Eugene, and 76% in Charlottesville). Early Steps study participation included family home visits and assessments, with half of the participants randomly selected for participation in a Family Check-Up (FCU)¹ intervention. The FCU is described further in the Procedures section.

Participant data for this analysis ($n = 148$) were selected from the original Early Steps sample ($n = 731$). Study participants' data were included in the present study if (a) families completed the Early Steps Time 1 assessment (Time 1 = child age 2 years) and Time 2 assessment (Time 2 = child age 3 years) in English, (b) the same primary caregiver participant completed Times 1 and 2 assessments, (c) participants were married or cohabitating at Times 1 and 2, and (d) participants reported the same romantic partner at Times 1 and 2.

Child participants included 70 (47%) males and 78 (53%) females ranging in age from 22 to 36 months at Time 1. Child participant race was reported as 88 (59%) European American or Caucasian, 12 (8%) African American, 4 (3%) Native American, 29 (20%) Hispanic or Latino, 12 (8%) biracial, and 3 (2%) "other." For caregiver status, parent participants included 139 biological mothers, 5 biological fathers, and 4 female guardians who were not related to the child biologically. One hundred twenty-three parents (83%) were adults (age 18 years and older) and 25 (17%) were teen parents (all females). One hundred forty-one participants (95%) were married and 7 (5%) were cohabitating with a romantic partner at Time 1. At Time 2, 145 (98%) parent participants were married and 3 (2%) were cohabitating. Regarding race, 98 (66%) parent participants self-identified as European American or Caucasian, 13 (9%) African American, 3 (2%) Native American, 24 (16%) Hispanic or Latino, 7 (5%) biracial, and 3 (2%) "other." Twenty-eight (19%) parent participants completed less than a high school education and 74 (50%) lived below the poverty line. Of the 148 participant families selected for this study, 78 (53%) did not receive the FCU intervention and 70 (47%) received the FCU intervention.

Measures

Demographics. A demographics questionnaire was administered to the parents during Times 1 and 2 assessment visits. The questionnaire asked about family structure, parental education and income, parental criminal history, and areas of familial stress.

Child behavior. The Eyberg Child Behavior Inventory (Eyberg & Pincus, 1999) was administered at Times 1 and 2. The Eyberg is a widely used 36-item measure of problem behavior for children and adolescents ages 2–16 years (Robinson, Eyberg, & Ross, 1980). The Eyberg Child Behavior Inventory measures two factors: the caregiver's rating of the intensity of a behavior and the caregiver's identification of the behavior as a problem. Our study focused on the problem identification factor, which asks caregivers to mark *yes* or *no* in response to the question, "Is this behavior a problem for you?" Total problem behavior scores may range from 0 to 36, with higher scores indicating parental identification of more problem behaviors. The

inventory has been demonstrated to be highly correlated with independent observations of children's behavior, to differentiate clinic-referred and nonclinic populations (Robinson et al., 1980), and to show estimates of high test-retest reliability (.86) and internal consistency (.98) with diverse samples (Webster-Stratton, 1985).

Couple relationship satisfaction. The Locke-Wallace Short Marital Adjustment Test (Locke & Wallace, 1959) was administered at Times 1 and 2 to primary caregivers. The Locke-Wallace Short Marital Adjustment Test is a widely used 15-item measure of critical aspects of romantic relationship or marital adjustment. Respondents use a 7-point Likert-type scale to report their overall relationship happiness and level of agreement and disagreement with their partners on various relationship topics (e.g., finances, sex, and demonstration of affection). Instructions were modified to include married couples and unmarried cohabitating couples. Scores may range from 2 to 158, with higher scores indicating more positive relationship adjustment. With a sample of 236 married couples, Locke and Wallace (1959) calculated a Spearman-Brown reliability coefficient of .90 and found that the instrument demonstrated strong internal consistency reliability and discriminated between distressed and nondistressed couples.

Parenting PBS construct. We created a composite measure of parents' use of PBS. We followed the scoring strategy used by Dishion et al. (2008), except that we created a Z score composite measure of PBS. PBS is a set of behavior management strategies that entail proactive structuring of situations for children that increase the likelihood of positive behavior, monitoring and tracking child behavior, spending time in social interaction with children, and reinforcing positive behavior. The PBS composite score was created using the following measures:

1. Parent involvement. This measure is based on the home visitor's rating of the parent's involvement, which used the following items from the Home Observation for Measurement of the Environment inventory (Bradley, Corwyn, McAdoo, & Garcia-Coll, 2001): "parent keeps child in visual range, looks at often," "parent talks to child while doing household work," "parent structures child's play periods."
2. Positive reinforcement. This measure is based on videotape coding (durations) of a caregiver's prompting and reinforcing of young children's positive behavior, as captured in the following Relationship Process Coding (RPC; Jabson, Dishion, Gardner, & Burton, 2004) system codes: positive reinforcement (verbal and physical), prompts and suggestions of positive activities, and positive structure (e.g., providing choices in a request for behavior change).
3. Engaged parent-child interaction time. This measure reflects the average length of parent-child sequences that involved talking or physical interactions such as taking turns or playing a game. Thus, the average duration of episodes that included consecutive parent-child exchanges involving RPC system codes such as "talk" and "neutral physical contact" were used to define these episodes.
4. Proactive parenting. Videotape coders rated each parent on his or her tendency to anticipate potential problems and to provide prompts or other structural changes to avoid young children becoming upset and/or involved in problem behavior on the following six items: parent gives child choices for behavior change whenever possible; parent communicates to the child in calm, simple, and clear terms; parent gives understandable, age-appropriate reasons for behavior change; parent adjusts or defines the situation to ensure the child's interest, success, and comfort; parent redirects the child to more appropriate behavior if the child is off task or misbehaves; parent uses verbal structuring to make the task manageable ($\alpha = .835$).

Parent depression. The Center for Epidemiological Studies Depression Scale (CES-D; 1972) was administered at Time 1. The CES-D is a widely used 20-item measure of depression. Respondents use a 4-point Likert-type scale to report their depressive symptoms experienced in the past week. Scores may range from 0 to 60, with scores of 16 or higher considered indicative of depression. The CES-D has been used with hundreds of different populations. Original internal consistency reliability estimates were .85 and higher with general population and patient samples, and the CES-D discriminated well between psychiatric inpatient and general population samples and discriminated moderately among levels of depression (Radloff, 1977).

Cumulative risk. A composite score to measure families' overall risk was created using the following measured variables: parent or guardian drug and alcohol use, teen parent status, education level, single adult living in the home, poverty, overcrowding in the home, parent criminal conviction, and neighborhood danger.

Procedures

Early Steps study participant recruitment. Early Steps is a 5-year, multisite prevention study that targets parenting practices in early childhood to reduce risk for a developmental trajectory leading to early-onset substance use or abuse and associated antisocial behaviors. Data collection began in 2002 and continues. Families were initially contacted at WIC sites and invited to participate if they had a child between age 2 years 0 months and 2 years 11 months, following a screen to ensure that they met the study criteria of having socioeconomic, family, and/or child risk factors for future behavior problems. Choosing a more commonly used quantitative definition, risk criteria were defined at or above one standard deviation above normative averages on several screening measures in the following three domains: (a) child behavior (conduct problems, high-conflict relationships with adults); (b) family problems (parent depression, daily parenting challenges, substance use problems, and teen parent status); and (c) sociodemographic risk (low education achievement and low family income using WIC criterion). Two or more of the three risk factors were required for sample inclusion. The final Early Steps sample included 731 parent-child dyads who lived in two metropolitan areas in the Northeast and Northwest and one smaller university town in the Southeast. Present study participant data were selected from this original Early Steps data set.

Assessment protocol. Data used for this study were collected at two assessment time points: Time 1, when the child was age 2 years, and Time 2, which was conducted 1 year after the Time 1 assessment. All Early Steps study parents and children completed a 2.5-hr assessment home visit at Time 1. The home visit and assessment protocol were conducted by trained research assistants and allowed for collection of survey and video observational data (e.g., see Measures section: parent involvement, positive reinforcement, engaged parent-child interaction time, and proactive parenting). For home visit assessments, children were introduced to an assortment of age-appropriate toys and were allowed to play freely for 15 min, after first being approached by an adult stranger (i.e., undergraduate videographer). While the children engaged in free-play time, the parent completed study questionnaires. After free play (15 min), each parent and child participated in a cleanup task (5 min), followed by a delay of gratification task (5 min), four teaching tasks (3 min each, with the last task being completed by an alternate caregiver and child), a second free play (4 min), a second cleanup task (4 min), the presentation of two inhibition-inducing toys (2 min each), and a meal preparation and lunch task (20 min). All families completed an identical home visit and observation assessment protocol when the child was age 3 years (Time 2). Families received \$100 and \$200 for completing the Times 1 and 2 assessments, respectively.

Coding of videotaped parent-child interactions. A team of undergraduates used the RPC (Jabson et al., 2004) to code the videotaped parent-child interaction tasks. The average team RPC percent agreement = .87, kappa = .86. The RPC is a third-generation code derived from the Family Process Code (Dishion, Gardner, Patterson, Reid, & Thibodeaux, 1983) used extensively in previous research. After coding each parent-child interaction, coders completed a coder impressions inventory regarding proactive and PBS practices for the purpose of this research study. All parent-child interaction tasks were evaluated in the scoring of PBS practices. Although coders were predominantly European American (90%), protocols developed by using examples of culturally diverse coding categories and by extensive training ensured that coding of family interactions was culturally sensitive. Previous research has revealed that cultural biases existed in coding of African American family interactions when coders were untrained in the coding system, and that coder training resulted in elimination of coding differences between European American and African American coders (Yasui & Dishion, 2007).

The FCU intervention protocol. The participant randomization sequence was computer generated by a staff member who was not involved with recruitment. Randomization was gender balanced to ensure an equal number of male and female children in the control and

FCU intervention groups. To ensure that randomization was blinded, the examiner opened a sealed envelope, revealing the family's group assignment only after the assessment was completed, and shared this information with the family. Early Steps research team members carrying out follow-up assessments were not informed of families' experimental condition.

Families randomly assigned to the FCU intervention met with a parent consultant for two or more assessment and feedback sessions, depending on the family's preference when their child was 2 years old (Time 1 assessment), and again when their child was 3 years old (Time 2 assessment). To optimize the internal validity of the study (i.e., prevent differential dropout for experimental and control conditions), however, the assessments were completed before random assignment results were known to either the research staff or the family. Treatment based on the FCU model was designed to be collaborative, ecologically based, and brief. Parents who completed the FCU received a check-up call at 3, 6, and 9 months following their assessment date to report changes in the behavior of their young children.

RESULTS

Preliminary Analyses

Missing data were less than 5%, so no methods were used to replace missing data. Descriptive statistics, frequencies, and scatter plots were used to examine distributions of the data. Child problem behavior and relationship satisfaction at Times 1 and 2 and parent PBS at Time 1 were normally distributed. Parental depression at Time 1 was only slightly positively skewed. Correlations, mean, and standard deviations for all study variables are provided in Table 1. We conducted a repeated-measures analysis of variance to evaluate the effect of the FCU and time on child problem behavior. FCU and Time main effects and the FCU \times Time interaction effect were tested using the multivariate criterion of Wilks's lambda (λ). Results showed no significant FCU \times Time interaction effect, $\lambda = .99$, $F(1, 145) = 1.65$, $p > .05$, indicating that there were no significant group differences (i.e., FCU participants vs. non-FCU participants) in child problem behavior over time.

Multiple Regression Analysis

A multiple regression analysis was conducted to evaluate how well cumulative risk at child age 2 years (Time 1), child problem behavior at Time 1, couple relationship satisfaction at Time 1, parent depression at Time 1, and parental PBS at Time 1 predicted child problem behavior at age 3 years (Time 2). We evaluated the assumptions of multiple regression by examining skewness, kurtosis, and a scatter plot of residuals. None of the assumptions of multiple regression appeared to be violated (normality, linearity, homoscedasticity, and independence).

The overlapping variance among the predictors as demonstrated by the correlations among predictors indicated that multicollinearity was a concern. Multicollinearity occurs when the predictor (independent) variables are highly correlated (Tabachnick & Fidell, 2007). We examined the semipartial (also known as *part*) and partial correlations, therefore, to determine the unique variance associated with each of the predictors. Semipartial correlations are the correlations between each predictor and the outcome variable once any overlapping variance among predictors has been removed from the predictor (but not from the outcome). The partial correlations represent the correlations between each predictor and the outcome variable once any overlapping variance among predictors has been removed from the predictor and the outcome. When the semipartial correlation is squared, it represents the proportion of the variance in the outcome variable that is uniquely associated with the predictor (Green & Salkind, 2002).

The linear combination of predictors was significantly related to child problem behavior at Time 2, $F(5, 130) = 15.56$, $p = .00$. The sample multiple correlation coefficient was .62, indicating that approximately 38% of the variance of child problem behavior at Time 2 in the sample was accounted for by the following T1 variables: child problem behavior, couple relationship satisfaction, parent depression, and parent behavior support.

Table 2 displays the t values for each predictor, the unstandardized regression coefficients (B), and the standardized regression coefficients (Beta). The t values for only two out of the four predictors were statistically significant at the $p < .05$ level: the t value for child problem

Table 1
Pearson Correlations Among Study Variables at T1 and T2

Variables	Range	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Child Prob Beh–T2	0–33	13.53	7.54	—	.46***	–.47***	.22**	–.19*	.14
2. Child Prob Beh–T1	0–29	14.39	5.97	—	—	–.14*	.13	–.12	.12
3. Couple Relationship Satisf–T1	31–74	58.93	8.75	—	—	—	–.34***	.15*	–.03
4. Parental Depression –T1	1–47	14.62	9.33	—	—	—	—	–.18*	.19*
5. Parental Positive Beh Supp–T1	–7.30–6.87	0.57	2.44	—	—	—	—	—	–.20*
6. Cumulative Risk–T1	0–3	1.00	.98	—	—	—	—	—	—

Notes. Child Prob Beh–T2 = child problem behavior at child age 3 years (Time 2); Child Prob Beh–T1 = child problem behavior at child age 2 years (Time 1); Couple Relationship Satisf–T1 = couple relationship satisfaction measured at child age 2 years (Time 1); Parental Depression–T1 = parental depression at child age 2 years (Time 1); Parental Positive Beh Supp–T1 = composite score of positive parental behavior comprising parental involvement, positive reinforcement, engaged parent–child interaction time, and proactive parenting at child age 2 years (Time 1); Cumulative Risk–T1 = composite score of risk comprising parent drug/alcohol use, teen parent status, education, single adult in home, poverty, overcrowding, parent conviction, and neighborhood danger at child age 2 years (Time 1).
* $p < .05$; ** $p < .01$; *** $p < .001$.

behavior at Time 1 was $t(125) = 5.20, p < .001$; the t value for couple relationship satisfaction at Time 1 was $t(125) = -5.23, p < .001$; the t value for parental depression at Time 1 was $t(125) = 0.46, p > .05$; the t value for parental use of PBS at Time 1 was $t(125) = -0.70, p > .05$; and the t value for cumulative risk at Time 1 was $t(125) = 0.79$. Child problem behavior at Time 1 accounted for 20% of the variance in child problem behavior at Time 2, and couple relationship satisfaction at Time 1 accounted for an additional 22% of the variance in child problem behavior at Time 2. The unstandardized regression coefficient indicates that for each one-unit increase in the child problem behavior score at Time 1, one would predict a 0.48-point increase in the child problem behavior score at Time 2; and for each one-unit increase in the couple relationship satisfaction score at Time 1, one would predict a 0.35-point decrease in the child problem behavior score at Time 2.

DISCUSSION

The purpose of this study was to examine the influence of early child problem behavior, couple relationship satisfaction, parenting practices, and parent depression on later child problem behavior. Study results showed that (a) couple satisfaction, parenting practices, and parent depression were significantly interrelated; (b) all three of these variables were associated with later child behavior outcomes; and (c) couple relationship satisfaction directly predicted child behavioral problems over time (Cummings & Davies, 2002; Schoppe-Sullivan, Schermerhorn, & Cummings, 2007).

These study results contribute to the literature in two primary ways. First, much of the existing research on couple relationship satisfaction and child behavior outcomes has focused on new parents and infant children. The focus of our study was on parents of toddlers and toddler child problem behavior. Second, most empirical research, to date, has shown that the relationship between marital/relationship conflict and infant/child outcomes is mediated by diminished parenting practices and disruptions in the parent–child relationship (Engfer, 1988; Erel & Burman, 1995; Fishman & Meyers, 2000; Krishnakumar & Buehler, 2000). A key

Table 2
Regression Model Predicting Child Problem Behavior at Age 3 Years (T2)

Predictors	<i>t</i>	<i>B</i>	Beta	Semipartial correlations	Partial correlations
Child Prob Beh–T1	5.20***	.48***	.37***	.37***	.42***
Couple Relationship Satisf–T1	–5.23***	–.35***	–.40***	–.37***	–.42***
Parental Depression–T1	0.46	.03	.04	.03	.04
Parental Positive Beh Support–T1	–0.70	–.60	–.05	–.05	–.06
Cumulative Risk–T1	0.79	.37	.06	.06	.07

Notes. Child Prob Beh–T1 = child problem behavior at child age 2 years (Time 1); Couple Relationship Satisf–T1 = couple relationship satisfaction measured at child age 2 years (Time 1); Parental Depression–T1 = parental depression at child age 2 years (Time 1); Parental Positive Beh Support–T1 = composite score of parental involvement, PBS, engaged parent–child interaction time, and proactive parenting at child age 2 years (Time 1); Cumulative Risk–T1 = composite score of risk comprising parent drug/alcohol use, teen parent status, education, single adult in home, poverty, overcrowding, parent conviction, and neighborhood danger at child age 2 years (Time 1).

B = unstandardized regression coefficients; Beta = standardized regression coefficients; PBS = positive behavior support; *n* = 148; ****p* < .001.

finding of our study was that toddler child problem behavior and couple satisfaction at Time 1 directly predicted child problem behavior at Time 2, controlling for parent practices and parent depression at Time 1.

Clinical and Research Implications

The findings in this study point to several possible implications regarding future research directions and clinical practice with families with young children. First, longitudinal studies examining children as young as age 3 years (e.g., Caspi, Moffitt, Newman, & Silva, 1998) have revealed an association between early behavior problems and long-term profiles of risk, including substance dependence in young adulthood (Dishion et al., 2008). Intervening during the first of these transition points, the toddler years, is an important strategy for preventing later problem behaviors in middle childhood and adolescence (Dishion et al., 2008).

Second, when examining our study findings in combination with related research, it is clear that many familial factors influence child behavior problems. This is not a new discovery; early scholars in the field of family therapy such as Salvador Minuchin, Jay Haley, Virginia Satir, and Gregory Bateson drew these same conclusions (Nichols & Schwartz, 2007), and the field of marriage and family therapy has been largely built on this premise. More recent research has also supported the reciprocal, two-way relationship between couple relationship functioning and child behavioral patterns and outcomes (Cowan & Cowan, 2000; Jenkins, Simpson, Dunn, Rasbash, & O'Connor, 2005; Leve, Scaramella, & Fagot, 2001; Reiss, 2008). We did not collect parent satisfaction data at T2, and thus were unable to test the influence of child problem behaviors at T1 on couple relationship satisfaction at T2. Examination of such a reciprocal relationship, however, is important to capture the dynamic and interactional relationship between parents and their children. Preliminary studies have also supported the bidirectional influence of parental depression and child behavioral outcomes (Gross et al., 2008).

The pattern of this study's correlational results showed that parent depression and parenting practices were significantly associated with later child problem behavior, and yet only couple satisfaction significantly predicted later child problem behavior. For future studies, researchers might include more longitudinal examination of couples' relationships in order to understand if, and under what conditions, couple relationship satisfaction precedes parental depression and child problem behavior, or if child problem behavior and parental depression

precede or directly coincide with couple relationship satisfaction. Research on the temporal sequencing of couples' relationships and transition to parenting a toddler can help clinicians better identify the critical transition periods and associated processes during which to intervene with couples.

Implications of study findings highlight the need for clinical intervention with couples in situations where families are experiencing child behavior problems. Clinicians may decide, for example, to routinely include assessments of couple satisfaction and child functioning when intervening with families with children. Specifically, it may be important to assess areas of couple connection and attachment (Johnson, 2008), shared meaning, quality of sexual relationship, friendship qualities, and conflict patterns (Gottman, 1999) through paper and pencil measures, structured interaction tasks, and couple interviews. The couple satisfaction assessments may be used to inform treatment that not only targets child behaviors but also the couple relationship simultaneously. In addition, these assessments could provide the clinician with an overview of the strengths and weaknesses of the couple relationship and the emotional climate of the family. Likewise, clinicians should simultaneously assess type, severity, and frequency of child behavioral problems and provide intervention that directly targets the problem behaviors. It is important for the assessment of couple or child treatment effectiveness to include both child and couple satisfaction outcomes.

Clearly, interventions that target social interaction patterns between parents and children are of short- and long-term value to the well-being of children (e.g., Dishion & Stormshak, 2007); however, there may be a need to intervene early and directly with (a) the emotional climate of the family and (b) the emotional climate of the couple's relationship. These two facets of family dynamics, as we see from these data, are highly interrelated. Therefore, not addressing these issues directly could ignore a key problematic process leading to escalating couple conflict, separations/divorces, and increasing levels of child behavior problems. For example, it may well be that both partners are depressed because the romantic relationship is difficult and potentially toxic, and both partners and the child may benefit from a peaceful separation/divorce. On the other hand, the emotional climate might be secondary to one partner's clinically significant depression, which affects the couple relationship and disrupts parenting strategies in the day-to-day life of the family. These two clinical scenarios would demand quite different intervention foci and support services, but in both scenarios, families would benefit from early intervention in order to prevent escalation of problems. Working from such a prevention-oriented perspective would also be cost-effective.

In summary, this study lends support for preventive interventions for couples and families, especially for those families at the tenuous life-cycle stage of raising a toddler child, regardless of the number of other children (Schulz et al., 2006). Most preventive couple intervention models are designed and tested with premarital and newlywed couples, with the majority of other couple intervention models being functionally reactive, designed to intervene with distressed couples in relatively long-term relationships (Cordova et al., 2001). The few studies that have examined preventive effects of couple intervention on relationship satisfaction have yielded positive results (Cordova et al., 2001; Schulz et al., 2006). Prevention-oriented, empirically validated couple and family intervention programs clearly are needed for families with toddlers.

Strengths and Limitations

Unique strengths of this study are the use of longitudinal data, multiple methods of assessment (i.e., self-report and direct observation), and recruitment of a sample that represents families with lower incomes, who are at high risk, and who are from multiple U.S. geographic regions. A few study limitations are worthy of attention. We gathered data at Time 2 only from those couples who returned to complete Time 2 measures. It is difficult, therefore, to ascertain what factors may have distinguished couples who returned to complete Time 2 questionnaires from those who did not. Data suggest, at minimum, that the mean level of couple satisfaction for couples at Times 1 and 2 was the same (see Table 1).

Second, temporal precedence is difficult to determine with this study. That is, we do not know from the existing data and analyses which variable preceded the others. For example, were parents more depressed, leading to a decrease in couple relationship satisfaction, which

then affected child behavioral problems? Or, did the presence of child behavior problems lead to parental depression, which in turn decreased couple satisfaction? Causal inferences, therefore, cannot be derived from the study results.

Third, our sampling does not allow us to generalize this study's results to primary guardians who are, for example, adoptive or foster care parents or in same-sex romantic partnerships, or to other diverse populations such as racial/ethnic minorities, because of study population characteristics (e.g., our sample included predominantly female biological mothers who identified as White or Caucasian) and because of the limitations of the questions asked of participants (e.g., same-sex romantic partnerships were not equally assessed in this study).

CONCLUSION

The findings from this study provide evidence that couple satisfaction directly predicts child behavior outcomes, even when controlling for early child behavior problems, parent depression, and parenting practices. Empirical support already exists for the effectiveness of a brief, preventive family intervention, the FCU model, to improve child behavior outcomes (Shaw, Dishion, Supplee, Gardner, & Arnds, 2006). Given that the life-cycle stage of parenting a toddler can be an exciting and challenging time for couples, brief, accessible, and preventive interventions, similar to the FCU, should be developed to address the unique challenges of the couple dyad during this time. In turn, research is needed that measures the effectiveness of these couple interventions on couple satisfaction and child behavior outcomes.

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NOTE

¹The FCU is a brief three-session intervention based on motivational interviewing and modeled after the Drinker's Check-Up (Miller & Rollnick, 2002). Typically, the three meetings included an initial contact session, an assessment session, and a feedback session (Dishion & Kavanagh, 2003). Thus, for research purposes only, the sequence of contacts comprised an assessment (baseline), randomization, an initial interview, a feedback session, and possibly follow-up sessions. Families were given a gift certificate for \$25, which could be used at local supermarkets or video stores, for completing the FCU at the end of the feedback session.