# A Family Process Model of Marital Hostility, Parental Depressive Affect, and Early Adolescent Problem Behavior: The Roles of Triangulation and Parental Warmth 

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#### Abstract

This study examined a family process model of early adolescent problem behavior in a community sample of 416 two-parent families. With family systems theory, a model was developed that suggests (a) marital hostility and parental depressive affect are conjoint familial stressors for youths, (b) youth triangulation mediates the association between marital hostility and adolescent problems, and (c) parental warmth buffers the negative effects of parental depressive affect and youth triangulation. With structural equation modeling, youthperceived triangulation mediated the association between marital hostility and adolescent internalizing problems. Marital hostility was associated with externalizing problems. Mothers' depressive affect was associated with internalizing problems, and fathers' depressive affect was associated with internalizing and externalizing problems. Parental warmth was not a significant moderator.


Keywords: adolescence, interparental conflict, marital conflict, parental depression, triangulation

Marital hostility and parents' depressive affect are two important risk factors for youth maladjustment because these factors often co-occur in families. Depressed people displaying more hostile and irritable behaviors during spousal interactions (Downey \& Coyne, 1990; Prince \& Jacobson, 1995) and spouses in conflictual marriages are at heightened risk for depression (Beach \& O'Leary, 1993; Christian, O’Leary, \& Vivian, 1994; Weissman, 1987). When examined in separate models, marital hostility and parents' depressive affect are each associated with higher levels of youth maladjustment (Buehler et al., 1997; Du Rocher Schudlich, Papp, \& Cummings, 2004; Erel \& Burman, 1995; Kahn, Coyne, \& Margolin, 1985). When examined together in the same model, children exposed to both parental depressive affect and marital hostility seem to be at greater risk for problem behavior than are children exposed to only one or the other (Essex, Klein, Cho, \& Kraemer, 2003). These findings are consistent with a family systems perspective of developmental psychopathology in which

[^0]children's adjustment is affected by stressors occurring at multiple levels of the family system (Cummings, Davies, \& Campbell, 2000).

However, not all children exposed to these family stressors display problem behaviors, leading researchers to examine specific processes that help explain individual differences in risk effects. The purpose of the present study was to examine a family process model of adolescent problem behavior that details the conjoint roles of parental depressive affect and marital hostility (Figure 1). The model suggests that both stressors need to be included to control for covariation and additive risk. The model also suggests that youths' perceptions of being triangulated in hostile marital interactions is one explanation for why marital hostility places youths at risk for problem behavior. Finally, the model represents a systems perspective because it is situated within the broader context of the parent-adolescent relationship. Parental warmth is hypothesized to buffer the negative effects of parental depression and marital hostility and to mitigate the potentially deleterious affects of triangulation.

## Theoretical and Empirical Foundations

Process models of family functioning suggest that the effect of parents' depressive affect on youth outcomes is shaped by numerous influences in the family system, with marital conflict identified as a primary factor for more negative outcomes in youths of depressed parents (Cummings, DeArth-Pendley, Du Rocher Schudlich, \& Smith, 2001; Downey \& Coyne, 1990). A substantial body of literature has examined the potential specialized effects of


Figure 1. The relationships between marital hostility, mothers' depressive affect, fathers' depressive affect, triangulation, and youth internalizing and externalizing problem behavior.
marital hostility and parental depressive affect on youth problem behavior (Downey \& Coyne, 1990). In a study of 506 adolescents and their mothers, Davies, Dumenci, and Windle (1999) found that marital distress mediated the relationship between maternal depressive affect and youth externalizing problem behavior both concurrently and prospectively. Furthermore, maternal depressive affect mediated the relationship between marital distress and youth internalizing problem behavior both concurrently and prospectively. Thus, marital hostility was associated uniquely with adolescent externalizing problem behavior, whereas maternal depressive affect was associated uniquely with internalizing problem behavior. Others have not found unique, specialized effects but have found that parents' depressive affect and marital hostility are associated with both externalizing and internalizing problem behavior and that their pattern of influence is additive (Cummings, Keller, \& Davies, 2005; Davies \& Windle, 1997; Essex et al., 2003; Fendrich, Warner, \& Weissman, 1990). Thus, the issue of significant, unique effects of parents' depressive affect and marital hostility has not been convincingly substantiated. Additional research is needed in which both familial risk factors are included in process models of early adolescent problem behaviors.

Early adolescence is an important juncture for examining the conjoint effects of parental depressive affect and marital hostility because youths are transforming their relationships with parents as they are beginning to explore their identities as young adults (Holmbeck \& Hill, 1991; Steinberg, 2001). A key developmental issue for parents and youths during this transition is negotiating youths' increased autonomy (Steinberg, 2001). Experiencing these familial stressors during this developmental transition creates additional demands on the youths as they often are compelled to devote psychological resources to processing and coping with witnessing parental disputes and living with parents' dysphoria. This diversion of needed resources during this critical
developmental transition is important to the extent that youths' perceptions of and responses to parental stressors are associated with developmental disruptions or problem behavior over time (Call \& Mortimer, 2001).

## Marital Hostility and Youth Triangulation

Theoretical elaborations of how marital hostility shapes adolescent maladjustment have focused on the association between marital hostility and youths' perceptions and attributions of marital hostility. Important perceptions include conflict properties, cognitive appraisals of threat and blame, emotional insecurity, and triangulation (Davies, Harold, Goeke-Morey, Cummings, Shelton, \& Rasi, 2002; Grych \& Fincham, 1990). In this study, we focus on triangulation from a structural family systems perspective. Triangulation involves boundary violations such that children become entangled in parents' conflict interactions and might feel caught in the middle (Minuchin, 1974). Here the emphasis is on triangulation that occurs when parents bring children into the disputes by using the child as a messenger between parents, as a confidante about problems with the other parent, or as an ally against the other parent during marital conflicts (Stone, Buehler, \& Barber, 2002). Triangulation also has a perceptual component in which youths feel caught, trapped, or torn between parents (Amato \& Afifi, 2006; Grych, Raynor, \& Fosco, 2004).

Triangulation increases youth risk for problem behavior because this process interferes with several potential strategies that have been found to buffer youths from the potential negative effects of marital hostility. First, youths who are pulled into marital disputes have fewer opportunities to avoid or disengage from parental disputes, and being involved in the conflict potentially places them at greater risk for parental anger and aggression (Grych et al., 2004). Second, this boundary violation has been linked to increased feelings of self-blame and perceived threat-both
cognitive processes that are associated with higher levels of problem behavior in youths exposed to marital hostility (Gerard, Buehler, Franck, \& Anderson, 2005). Youths who are triangulated into parental disputes might feel greater responsibility for the conflict and feel more threatened by parental behavior than might youths who are not involved in the parents' disputes.

Empirically, families characterized by cross-generational allied relationships have increased levels of marital dissatisfaction and conflict (Kerig, 1995). This seems to characterize families in which fathers allied with a child against mothers and in which mothers allied with a child against fathers (Fish, Belsky, \& Youngblade, 1991; Jacobvitz \& Bush, 1996). Furthermore, both triangulated sons and daughters are at risk for internalizing and externalizing problem behavior (Bosco, Renk, Dinger, Epstein, \& Phares, 2003; Bradford et al., 2004; Wang \& Crane, 2001). Grych et al. (2004) found that youth-perceived triangulation completely mediated the association between youth reports of marital hostility and adolescent internalizing and externalizing problem behavior, and they suggested that boundary violations help explain why marital hostility places youths at risk for social and emotional adjustment difficulties. There also has been some evidence that complete mediation characterizes only the association with internalizing problems and that direct effects of marital hostility remain when externalizing problems is the outcome (Stone et al., 2002). But again, evidence suggesting specialized effects has not been replicated, and therefore, additional research is needed to increase confidence regarding the generalizability of these specific patterns.

Early adolescents might be particularly vulnerable to the stressors of triangulation for several reasons. This developmental stage is characterized by increasing autonomy, but youths in families characterized by strong parent-child alliances might have difficulty disengaging from parents. It is possible that these feelings result in more problem behavior as youths react to parental attempts at triangulation with hostility and overt anger. At this age, youths are at increased risk for the development of depression, particularly for daughters. Throughout adolescence, daughters begin to focus on relationships, and there is evidence that daughters are more attuned to problems in the marital dyad such as marital conflict than are sons (Davies \& Lindsay, 2001). Daughters might be at increased risk for depression if they feel enmeshed in the family, becoming overinvolved in parental disputes and feeling responsible for the functioning of the family (Bell, Bell, \& Nakata, 2001; Davies \& Lindsay, 2001).

## Parental Depressive Affect and Youth Triangulation

Scholars have theorized that, in addition to overt marital hostility, triangulation might be associated with parents' depressive affect (Coyne, Downey, \& Boergers, 1992). On the basis of family systems theory, one of the functions of triangulation for couples is to release tension in the marital dyad by engaging a child in the fight (Wang \& Crane, 2001). Whereas most parents do not involve youths in their marital disputes (Vuchinich, Emery, \& Cassidy, 1988),
youth triangulation in marital conflict is more prevalent in families with a depressed parent (Jacobvitz \& Bush, 1996). Few studies, however, have examined the conjoint associations among marital hostility, parents' depressive affect, youth triangulation in parental disputes, and youth problem behavior. An exception is the study by Bosco et al. (2003), who examined the relationships among parents' depressive affect, overt marital hostility, triangulation, parenting behavior, and adolescent problem behavior across parentyouth dyads. Their findings suggested a few specialized process patterns, with unique effects occurring for marital hostility and externalizing problems in mother-daughter dyads. Conjoint, additive effects occurred only in the mother-daughter dyads when internalizing problems were considered. Thus, there was some evidence of specialized process patterns, but this examination was limited in that internalizing and externalizing problem behavior were not included in the same analytic models, qualifying the assessment of unique and specialized process patterns. Families with a depressed parent might be at risk for boundary violations such as triangulation (Coyne et al., 1992); however, it also is plausible that this increased risk is due to the association between overt marital hostility and parental depression (Downey \& Coyne, 1990). On the basis of this possibility, we hypothesized that mothers' and fathers' depressive affects are not associated directly with triangulation when marital hostility is controlled for.

## The Role of Parental Warmth

Parental warmth might form an important context for the interrelationships among marital hostility, parents' depressive affect, triangulation, and adolescent problem behavior (Cummings et al., 2000). In particular, parental warmth might buffer the associations between parents' marital hostility and adolescent problem behavior. Theoretically, parental warmth is an important variable within some family systems because it represents the emotional climate of the family and potentially contextualizes the interpretation of parental behavior (Darling \& Steinberg, 1993). By using a cognitive-contextual framework, Grych and Fincham (1990) proposed that children who have warm relationships with parents perceive marital hostility as less threatening both to their own safety and to the stability of the family system itself.

Empirical studies have found that youths who report warm relationships with parents interpret parental conflicts as less physically threatening (Grych, 1998). Davies et al. (2002) found that family cohesion buffered (i.e., weakened) the association between emotional insecurity regarding marital hostility and child maladjustment, although the association was significant in both the lower and higher cohesion groups. Grych et al. (2004) tested for moderating effects of adolescents' perceptions of parental acceptance but found significant direct effects only between acceptance and problematic conflict-related appraisals.

## The Role of Gender

There is empirical support for significant child and parent gender effects when examining the relationships among
marital hostility, parents' depressive affect, and youth maladjustment. In a recent meta-analysis, Connell and Goodman (2002) found that mothers' depression was related more strongly to internalizing problem behaviors in children than was fathers' depression. Father's depression has been related to poorer cognitive functioning for sons and daughters and internalizing problem behaviors in sons (Thomas \& Forehand, 1991). Ge and colleagues (1995) found same-sex gender effects with mothers' and daughters' depression and fathers' and sons' depression related concurrently. In a study that examined both risk factors, Davies and Windle (1997) found that adolescent daughters exposed to both maternal depressive affect and marital distress were at greater risk for depression, conduct disorders, and poor academic functioning than were sons. Another study found that adolescent daughters exposed to marital hostility and mothers' depression displayed more irritability with others than did adolescent daughters exposed only to mothers' depression (Hops, Sherman, \& Biglan, 1990). Thus, although differential family vulnerability patterns might exist for sons and daughters, additional research is needed to identify which, if any, process patterns consistently differ across sons and daughters (Cummings et al., 2000; Davies \& Lindsey, 2001). This additional research needs to include designs that incorporate multiple familial stressors and adolescent externalizing and internalizing problems in the same model so that unique and specialized patterns for sons and daughters can be isolated.

## The Current Study

In general, studies that have examined the relationships among parents' depressive affect, marital hostility, and adolescent outcomes have not included measures of triangulation, limiting the examination of specific processes that implicate youths. Furthermore, in general, many of the studies have focused only on mothers' psychological functioning (for exceptions, see Kane \& Garber, 2004); therefore, knowledge regarding the effects of paternal depressive affect on youth functioning is limited (Phares \& Compas, 1992).

As such, this study had two primary goals. First, the mediating role of adolescents' perceptions of triangulation was examined within the context of a family process model that included marital hostility as well as mothers' and fathers' depressive affects. Second, the potential buffering effect of parental warmth was examined to take into consideration the broader family emotional climate.

This study seeks to address some of the limitations of the existing research by (a) including parents' depressive affect, marital hostility, and triangulation in the same model so that unique and mediating patterns can be clarified; (b) focusing on the contributions of both paternal and maternal depressive affect; (c) minimizing the effects of shared error variance by using different methods and informants to measure marital hostility and triangulation; and (d) including both adolescent internalizing and externalizing problem behavior in the same model so that specialized effects can be identified.

## Method

## Data Collection Procedures

Sixth grade students from 13 middle schools in a large southeastern county were invited to participate in a study of family life. Ninety-six percent of the teachers participated. Students were invited to participate through a letter distributed during homeroom and were asked to return the signed parental consent form after talking with their parents about participating. Two follow-up invitations were mailed directly to the parents' homes. About $73 \%$ of the consent forms were returned to homeroom teachers or the project office, with an $80 \%$ consent rate. Two thousand three hundred forty-six students completed questionnaires in school and were treated to a pizza party as compensation. The consent form indicated marital status and the presence of stepchildren in the family. Families were considered eligible for the present study if there were 2 married parents in the home and no stepchildren in or out of the home. Eligible families who had given consent for the student to participate in the school study were invited by letter and a follow-up phone call to participate in the current study. Families were offered $\$ 100$ to participate in the study. Of the 1,131 eligible families, $416(37 \%)$ agreed. The most frequent reasons given for nonparticipation were lack of time and a family member not wanting to be videotaped. All 3 family members (the youth, the mother, and the father) needed to be willing to participate in the study to be included in the final sample. This participation rate is comparable with that of other studies involving multiple family members (Sweet, Bumpass, \& Call, 1988, National Survey of Families and Households-34\%; Updegraff et al., 2004 - 37\%). Analyses comparing eligible participating and nonparticipating families by using the youth survey data from the initial study indicated no significant differences on the youthreport and teacher-report variables in this study. These variables included youth and teacher report of internalizing and externalizing problem behavior as well as youth report of parental triangulation (contact Karen L. Franck for statistical details).

Parents and youths were each mailed a questionnaire and asked to complete it individually to help maintain privacy. Completed questionnaires were sealed in individual envelopes and collected during the home visit. In addition, parents and youths completed another brief questionnaire during the home visit that contained the most sensitive information (e.g., marital hostility), and a trained researcher's presence ensured privacy.

During the home visit, semistructured discussion activities between the family members were videotaped. The youths and the parents each completed a brief checklist of common family disagreements (e.g., chores, money) before the first interaction activity (Melby \& Conger, 2001). Data from four interaction tasks were used for the current study. For each task, participants were given cards that contained questions for everyone to discuss. The first two tasks lasted 15 minutes-one task was with the youth and the mother and the other task was with the youth and the father. The participants discussed topics about daily events, parenting
behavior, and activities they enjoyed doing together. The third task lasted 20 minutes, and the three family members participated. During this task, the youths and parents were asked to discuss selected areas they had identified as sources of disagreement, focusing on who was involved in the conflict, what happens during the conflict, and ways to resolve the disagreement. The fourth task was 20 minutes, and only the spouses participated. The spouses discussed areas of daily life together such as things they enjoyed doing together and sources of conflict in their relationship.

Family interactions were coded with the Iowa Family Interaction Rating Scales (Melby et al., 1991). Each coder received over 250 hours of training and passed extensive written and viewing tests before coding interactions. Different observers coded the three tasks to decrease the possibility of coder bias. About $20 \%$ of the tasks were selected randomly and coded by a second observer to assess interrater reliability.

## Sample Characteristics

There were similar numbers of sons and daughters (205 and 211 , respectively). In terms of ethnicity, $91 \%$ of the families were European American, 3\% were African American, and $6 \%$ were other ethnicities. The mean level of mother's education and father's education was some college. The median level of household income was about $\$ 70,000$. Compared with 1999 U.S. Census data for the same county, the demographic statistics of this sample were lower regarding the percentage of African American families (5\% in county; United States Census Bureau, 2000c, Table PCT27 of SF4), comparable regarding educational levels for men and women (county mean category was some college, no degree; United States Census Bureau, 2000a, Table P148A of SF4), and higher regarding median income ( $\$ 59,548$ in county, United States Census Bureau, 2000b, Table PCT155A of SF3).

## Measures

## Parents' Depressive Affect

On the mailed questionnaire, each parent reported levels of depressive affect by using two common measures: the Beck Depression Inventory (Beck, Steer, \& Brown, 1996) and the Center for Epidemiological Studies on Depression Scale (Radloff, 1977). The Beck Depression Inventory is a 20-item measure of diverse symptoms of depression, including feelings of sadness, anxiety, and irritability. Respondents were instructed to choose the statement that best describes their feelings during the past week, including today. Items were summed. Cronbach's alpha was .87 for mothers and .85 for fathers. $12 \%$ of mothers and $6 \%$ of fathers scored in the mild to moderate range for depression, and $1 \%$ of both mothers and fathers scored in the severe range for depression.

The Center for Epidemiological Studies on Depression Scale (Radloff, 1977) is a 20 -item measure of depressive affect. Respondents were instructed to think about their feelings and behavior for the past week. The response
format ranged from 1 (rarely or none of the time [less than 1 day]) to 4 (most or all of the time [5-7 days]). Items were summed. Cronbach's alpha was .82 for mothers and fathers. $11 \%$ of mothers and $8 \%$ of fathers scored above the clinical cutoff for depression.

## Marital Hostility

Marital hostility was measured by using both mothers' and fathers' self-reports as well as observed hostility. During the home visit, parents completed an 18-item questionnaire measure of overt interparental hostility consisting of verbally and physically aggressive tactics taken from two measures of marital conflict (Buehler et al., 1998; Kerig, 1996). Items were averaged within respondent, and Cronbach's alpha was .89 for mothers' and fathers' reports of their own behavior toward their spouses.

Four observational rating scales from the Iowa Family Interaction Rating Scales (Melby et al., 1991) were used to measure marital hostility: Hostility, Verbal Attack, Angry Coercion, and Antisocial Behavior. Scores were obtained for mothers' and fathers' interactions with their spouse during both tasks. The scores from the two tasks were averaged, providing one score for mothers' and one score for fathers' interaction. Cronbach's alpha was .77. Average agreement across coders was .79. Average single-item intraclass correlation coefficients based on a one-way random effects analysis of variance model were .45 for mothers and .49 for fathers, which is adequate for these rating scales and comparable with other studies (Melby \& Conger, 2001).

## Triangulation

On the questionnaire completed during school, youths answered seven items. Two items were adapted from Grych, Seid, and Fincham (1992). Five items from the covert conflict scale developed by Buehler et al. (1998) were used. The response scale ranged from 1 (never) to 4 (very often). Items were averaged ( $\alpha=.79$ ). Evidence of construct validity in 13 samples across eight countries was provided by Bradford et al. (2004).

## Youth Problem Behavior

Externalizing problem behavior. Parents completed 31 items on the Child Behavior Checklist on the mailed questionnaire (Achenbach, 1991a); teachers completed 31 items on the Teacher Report Form (Achenbach, 1991b); and youths completed 30 items on the Youth Self-Report during the school data collection (Achenbach, 1991c). The response format ranged from 0 (not true [as far as you know]) to 2 (very true or often true), and items were summed. Cronbach's alphas were .87 for mothers, .89 for fathers, .84 for youths, and .93 for teachers. $17 \%$ of mothers, $16 \%$ of fathers, $7 \%$ of youths, and $12 \%$ of teachers reported externalizing problem behavior at or above the 70th percentile. All forms of the Child Behavior Checklist, including the parents' and teachers' forms, have been used with a wide range of ages and ethnic groups and have been demon-
strated to have adequate reliability and validity (Achenbach, 1991a; McConaughy, 1993).

Internalizing problem behavior. Parents completed 29 items on the Child Behavior Checklist on the mailed questionnaire (Achenbach, 1991a); teachers completed 29 items on the Teacher Report Form (Achenbach, 1991b); and youths completed 30 items on the Youth Self-Report during school data collection (Achenbach, 1991c). The response format ranged from 0 (not true [as far as you know]) to 2 (very true or often true), and items were summed. Cronbach's alphas were .82 for mothers, .85 for fathers, .87 for youths, and .87 for teachers. $21 \%$ of mothers and fathers, $15 \%$ of youths, and $12 \%$ of teachers reported internalizing problem behavior at or above the 70th percentile.

## Parental Warmth

Ten scales from the Iowa Family Interaction Rating Scales observational coding scales were used to measure mothers' and fathers' levels of parental warmth. These scales were taken from the parent-child task and from the problem-solving task. These scales included warmth/ support, listener responsiveness, prosocial behavior, quality time, positive influence, consistent monitoring, and positive reinforcement. Observers looked for evidence of a variety of warm and supportive behaviors expressed through statements, listening behaviors, and reported parenting behaviors. These behaviors included reports of knowledge and monitoring of child's activities and friends, encouragement of the child's independence and decision making, and expression of love and warmth directed to the youth by the parent. Cronbach's alpha was .71 for mothers and .73 for fathers. Average single-item intraclass correlation coefficients based on a one-way random effects analysis of variance model were .42 for mothers and .53 for fathers, which are adequate for these rating scales and consistent with other studies (Melby \& Conger, 2001).

## Analytic Methods

Data were analyzed by using structural equation modeling (Mplus) with an adapted maximum likelihood estimator (MLR). MLR is robust with data that might not meet stringent normality assumptions (Muthén \& Muthén, 2004). Missing data (less than $3 \%$ on any given variable) were treated with a full information maximum likelihood estimation procedure (FIML). FIML retains valuable information and produces estimates that are less biased than are those produced with other procedures, such as deleting cases or imputing the sample mean (Acock, 2005; Byrne, 2001). A probability level of .05 was used to determine statistical significance.

The overall goodness of fit for each model was assessed by the $\chi^{2}$ statistic, Bentler's comparative fit index (CFI; Bollen \& Long, 1993), and Browne and Cudeck's (1993) root-mean-square error of approximation (RMSEA). For a model to fit the data well, ideally the $\chi^{2}$ statistic is nonsignificant. However, when the sample size is large the $\chi^{2}$ statistic tends to be significant, and this can lead to an erroneous rejection of the model (Byrne, 2001). Therefore,
other indices regarding model fit were examined. The CFI is based on a comparison of the hypothesized model and the independence model (e.g., there are no relationships between the variables in the model; Byrne, 2001). The CFI ranges from 0 to 1.00 with a cutoff of .95 or higher indicating a well-fitting model and .90 indicating an adequate fit (Byrne, 2001; Hu \& Bentler, 1999). The RMSEA compares the model to the projected population covariance matrix (Byrne, 2001). RMSEA values below . 05 indicate a good model fit with values between .06 and .08 indicating an adequate model (Browne \& Cudeck, 1993; Byrne, 2001). Error terms within informants for the measures of problem behavior that come from the same form (i.e., youth report of externalizing and internalizing) were correlated because of the expectation of shared error variance (Bollen, 1989; Kenny \& Kashy, 1992). Effect statistics reported in the next section are the structural equation modeling standardized coefficients.

## Results

Zero-order correlations are in Table 1. These correlations provide a preliminary assessment of significant relationships among the indicators within and between constructs. Associations were in the expected directions.

A model was tested in which mothers' and fathers' depressive affect and marital hostility were the independent variables, youth externalizing and internalizing problem behavior were the dependent variables, and triangulation was the intervening variable between marital hostility and youth externalizing and internalizing problem behavior (Figure 2). Mothers' and fathers' warmth were included as control variables. Although the model hypothesizes a nonsignificant relationship between triangulation and mothers' and fathers' depressive affect, these paths were included in the model tested. The model fit was adequate, $\chi^{2}(224)=$ 457.81, $p<.001(\mathrm{CFI}=.92$, RMSEA $=.05)$. All factor loadings were significant (Table 2). Mothers' and fathers' depressive affect were associated ( $r=.20, p<.01$ ). Mothers' depressive affect was associated uniquely with marital hostility ( $r=.32, p<.001$ ), as was fathers' depressive $\operatorname{affect}(r=.28, p<.01)$.

Marital hostility was associated significantly with youth triangulation ( $\mathrm{B}=.38, p<.001$ ). Triangulation was related to adolescent internalizing but not to externalizing problem behavior ( $\mathrm{B}=.16, p<.05$ and $-.01, p=n s$, respectively). As hypothesized, mothers' and fathers' depressive affects were not related to triangulation ( $\mathrm{B}=.03$ and $.08, p \mathrm{~s}=n s$, respectively). Mothers' depressive affect was related to adolescent internalizing but not to externalizing problems ( $\mathrm{B}=.20, p<.01$ and $.07, p=n s$, respectively). Fathers' depressive affect was related to both adolescent internalizing and externalizing problems ( $\mathrm{B}=.15, p<.05$ and .21 , $p<.01$, respectively). Marital hostility was related to externalizing but not to internalizing problems ( $\mathrm{B}=.21$, $p<.01$ and $.09, p=n s$, respectively). Functioning as a control variable in this model, fathers' warmth was related to externalizing problems ( $\mathrm{B}=-.13, p<.05$ ).

This model was tested for moderating effects of youth gender. First, a model was examined in which all of the

Table 1
Parents' Depressive Affect, Overt Marital Hostility, Youth Perceptions of Triangulation, Adolescent Problem Behavior, and Observed Mothers' and Fathers' Warmth: Correlations and Descriptive Statistics

| Variable |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. Mothers' depressive affect-CES-D ${ }^{\text {a }}$ |  | - |  |  |  |  |  |  |  |  |  |
| 2. Mothers' depressive affect-BDI ${ }^{\text {a }}$ |  | . 68 |  |  |  |  |  |  |  |  |  |
| 3. Fathers' depressive affect-CES-D ${ }^{\text {b }}$ |  | . 24 | . 13 | - |  |  |  |  |  |  |  |
| 4. Fathers' depressive affect-BDI ${ }^{\text {b }}$ |  | . 13 | . 11 | . 67 | - |  |  |  |  |  |  |
| 5. Marital hostility-MR ${ }^{\text {c }}$ |  | . 17 | . 24 | . 16 | . 12 |  |  |  |  |  |  |
| 6. Marital hostility-FR ${ }^{\text {c }}$ |  | . 09 | . 12 | . 17 | . 14 | . 51 | - |  |  |  |  |
| 7. Marital hostility-OR ${ }^{\text {c }}$ |  | . 21 | . 27 | . 18 | . 15 | . 37 | . 39 | - |  |  |  |
| 8. Triangulation- $\mathrm{YR}^{\mathrm{d}}$ |  | . 14 | . 17 | . 15 | . 12 | . 30 | . 27 | . 22 |  |  |  |
| 9. Internalizing- $\mathrm{YR}^{\mathrm{d}}$ |  | . 11 | . 14 | . 16 | . 13 | . 07 | . 09 | . 14 | . 41 |  |  |
| 10. Internalizing-MR |  | . 27 | . 30 | . 11 | . 10 | . 19 | . 09 | . 10 | . 13 | . 29 |  |
| M |  | 7.14 | 5.36 | 6.41 | 4.21 | 1.78 | 1.72 | 1.83 | 1.42 | 10.96 | 6.88 |
| SD |  | 7.03 | 4.84 | 6.35 | 4.49 | . 41 | . 39 | . 65 | . 52 | 7.50 | 5.26 |
| Range |  | 0-48 | 0-30 | 0-48 | 0-45 | 1-3.18 | 1-3.11 | 1-4.46 | - 1-5 | 0-45 | 0-31 |
| $\alpha$ |  | . 87 | . 82 | . 85 | . 82 | . 89 | . 89 | . 89 | . 79 | . 87 | . 82 |
| Variable |  | 11 |  | 12 | 13 | 14 | 15 | 16 |  | 17 | 18 |
| 1. Mothers' depressive affect-CES-D ${ }^{\text {a }}$ |  | . 11 |  | -. 03 | . 08 | . 14 | . 12 | . 03 |  | -. 18 | -. 21 |
| 2. Mothers' depressive affect-BDI ${ }^{\text {a }}$ |  | . 13 |  | -. 01 | . 14 | . 20 | . 12 | . 04 |  | -. 10 | -. 15 |
| 3. Fathers', depressive affect-CES-D ${ }^{\text {b }}$ |  | . 17 |  | . 04 | . 17 | . 17 | . 23 | . 08 |  | -. 14 | -. 19 |
| 4. Fathers' depressive affect-BDI ${ }^{\text {b }}$ |  | . 21 |  | . 06 | . 14 | . 17 | . 26 | . 10 |  | -. 05 | -. 17 |
| 5. Marital hostility-MR ${ }^{\text {c }}$ |  | . 11 |  | . 04 | . 09 | . 22 | . 19 | . 08 |  | -. 03 | -. 07 |
| 6. Marital hostility-FR ${ }^{\text {c }}$ |  | . 20 |  | . 09 | . 07 | . 16 | . 24 | . 13 |  | -. 11 | -. 14 |
| 7. Marital hostility-OR ${ }^{\text {c }}$ |  | . 06 |  | . 00 | . 13 | . 03 | . 06 | . 04 |  | -. 12 | -. 17 |
| 8. Triangulation- $\mathrm{YR}^{\text {d }}$ |  | . 10 |  | . 08 | . 32 | . 08 | . 07 | . 06 |  | -. 12 | -. 08 |
| 9. Internalizing-YR ${ }^{\text {d }}$ |  | . 27 |  | . 24 | . 54 | . 13 | . 09 | . 01 |  | -. 17 | -. 12 |
| 10. Internalizing-MR |  | . 50 |  | . 16 | . 16 | . 57 | . 31 | . 08 |  | -. 10 | -. 12 |
| Variable 11 |  | 12 |  | 13 | 14 | 15 | 16 |  | 17 |  | 18 |
| 11. Internalizing-FR ${ }^{\text {d }}$ |  |  |  |  |  |  |  |  |  |  |  |
| 12. Internalizing-TR ${ }^{\text {d }}$. 26 |  | - |  |  |  |  |  |  |  |  |  |
| 13. Externalizing-YR . 09 |  | . 12 |  | - |  |  |  |  |  |  |  |
| 14. Externalizing-MR ${ }^{\text {e }}$ - 34 |  | . 21 |  | . 29 | - |  |  |  |  |  |  |
| 15. Externalizing-FR ${ }^{\text {e }}$ | . 52 | . 23 |  | . 26 | . 68 | - |  |  |  |  |  |
| 16. Externalizing-TR ${ }^{\text {e }}$ | . 10 | . 28 |  | . 19 | . 39 | . 38 | - |  |  |  |  |
| 17. Mothers' Warmth-OR | -. 11 | -. 16 |  | -. 06 | -. 10 | -. 13 | -. 15 |  | - |  |  |
| 18. Fathers' Warmth-OR | -. 13 | -. 13 |  | -. 14 | -. 17 | -. 16 | -. 18 |  | . 40 |  | - |
| M | 6.45 | 3.53 |  | 9.47 | 7.66 | 7.74 | 3.09 |  | 6.16 |  | 5.95 |
| SD | 5.37 | 4.91 |  | 5.98 | 6.05 | 6.39 | 5.89 |  | . 79 |  | . 83 |
| Range | 0-35 | 0-33 |  | 0-41 | 0-29 | 0-36 | 0-46 |  | 2.90-8.50 |  | 3.50-7.90 |
|  | . 85 | . 87 |  | . 84 | . 87 | . 89 | . 93 |  | . 71 |  | . 73 |

Note. $\quad N=416$. Correlations in bold are significant at $p<.05$. CES-D $=$ Center for Epidemiological Studies on Depression Scale; BDI $=$ Beck Depression Inventory; MR = mother report; $\mathrm{FR}=$ father report; $\mathrm{OR}=$ observer report; $\mathrm{YR}=$ youth report; TR $=$ teacher report. Superscripts are indicators for latent variables.
${ }^{\text {a }}$ Mothers' depressive affect.
${ }^{\mathrm{b}}$ Fathers' depressive affect.
${ }^{c}$ Marital hostility.
${ }^{\mathrm{d}}$ Youth externalizing problem behavior.
${ }^{\mathrm{e}}$ Youth internalizing problem behavior.
parameters (measurement and structural) were constrained to equality across the groups of sons and daughters. Second, the measurement paths were allowed to vary across the two groups. The $\chi^{2}$ difference between the two models was not statistically significant, $\Delta \chi^{2}(19)=29.86, p=n s$, indicating that there were no significant differences between sons and daughters in the measurement model. Third, the structural paths were allowed to vary across the two groups. The $\chi^{2}$ difference between the two models was not statistically significant, $\Delta \chi^{2}(17)=30.48, p=n s$, indicating that there were no significant differences between sons and daughters in the strength or direction of the substantive pathways. As a follow-up, the critical ratios of the structural pathways
were compared. There were two significant differences. Fathers' depressive affect was related to sons' internalizing ( $\mathrm{B}=.32, p<.01$ ) and externalizing problems $(\mathrm{B}=.38$, $p<.001$ ) but not to daughters' ( $\mathrm{B}=.05$ and $.14, p \mathrm{~s}=n s$, respectively).

Two sets of models were calculated to examine the potential moderating effects of parental warmth: one with observed mothers' warmth and one with observed fathers' warmth. In the mother models, youths were split into two groups at the median level of observed warmth, creating one group with higher mothers' warmth and one group with lower mothers' warmth. As with youth gender, a first model was estimated in which all parameters were constrained to


Figure 2. The relationships between marital hostility, mothers' depressive affect, fathers' depressive affect, triangulation, and youth externalizing and internalizing problem behavior. YR = youth report; $\mathrm{MR}=$ mother report; $\mathrm{FR}=$ father report; $\mathrm{TR}=$ teacher report; $\mathrm{OR}=$ observer report; BDI $=$ Beck Depression Inventory; CES-D $=$ Center for Epidemiological Studies on Depression Scale.
equality across the two groups. Second, the measurement paths were allowed to vary across the two groups. The $\chi^{2}$ difference between the two models was not statistically significant, $\Delta \chi^{2}(18)=20.54, p=n s$, indicating that there were no significant differences between high and low mother's warmth in the measurement model. Third, the structural paths were allowed to vary across the two groups and were compared with the model in which the parameters were constrained to be equal. There were no differences in the structural paths of these models, indicating no significant moderating effects of mothers' warmth, $\Delta \chi^{2}(10)=11.88$, $p=n s$.

In the father model, again youths were split into two groups at the median level of warmth, with one group indicating higher fathers' warmth and one group indicating lower fathers' warmth. As with the mothers, there were no differences in the measurement, $\Delta \chi^{2}(18)=32.46, p=n s$; or the structural paths of these models, indicating no significant moderating effects of fathers' warmth, $\Delta \chi^{2}(10)=$ $5.12, p=n s$. A series of follow-up regression analyses were used to examine potential moderating effects of parental warmth. Interaction terms were created with mothers' and fathers' warmth for each centered, continuous variable: marital hostility, mothers' depressive affect, fathers' depressive affect, and youth triangulation. None of the interaction
terms were statistically significant (contact Karen L. Franck for analytic and statistical details).

## Discussion

This study provided one of the first examinations of the process relations among parents' depressive affect, marital hostility, youth triangulation, and adolescent problem behavior. The findings suggest that triangulating youths in parental disputes helps explain the relationship between marital hostility and youth internalizing problem behavior. This pattern characterized both sons' and daughters' functioning in families.

Grych et al. (2004) theorized a family process model that conceptualized triangulation as a mediating explanation of the association between overt marital hostility and adolescent problem behavior, and the findings from this study partially supported this process explanation. Although bringing a third person into the conflictual interaction might help reduce personal anxiety and spousal tensions (Haley, 1976) and even increase the adolescent's feelings of power and control, this boundary intrusion places adolescents at risk for personal distress. If this pattern of triangulation becomes structural over time, this distress might stabilize into more pervasive disturbances such as dysphoria and depression.

Table 2
Unstandardized Factor Loadings, Standardized Factor Loadings, and Significance Levels for Model in Figure 1 (Standard Errors in Parentheses; $N=416$ )

| Parameter estimate | Unstandardized | Standardized | $p$ |
| :---: | :---: | :---: | :---: |
| Measurement model |  |  |  |
| Marital hostility |  |  |  |
| Mother report | . 30 (.20) | . 73 | . 001 |
| Father report | . 27 (.02) | . 69 | . 001 |
| Observer report | . 35 (.04) | . 53 | . 001 |
| Mothers' depressive affect |  |  |  |
| CES-D | 5.37 (.46) | . 77 | . 001 |
| BDI | 4.35 (.34) | . 90 | . 001 |
| Fathers' depressive affect |  |  |  |
| CES-D | 5.32 (.44) | . 84 | . 001 |
| BDI | 3.57 (.30) | . 80 | . 001 |
| Triangulation |  |  |  |
| Item 1 | 1.00 (.00) | . 72 | . 001 |
| Item 2 | . 71 (.07) | . 59 | . 001 |
| Item 3 | . 76 (.08) | . 57 | . 001 |
| Item 4 | . 27 (.04) | . 44 | . 001 |
| Item 5 | . 44 (.05) | . 54 | . 001 |
| Item 6 | . 56 (.05) | . 67 | . 001 |
| Item 7 | . 54 (.06) | . 57 | . 001 |
| Internalizing |  |  |  |
| Youth report | 1.00 (.00) | . 46 | . 001 |
| Mother report | . 99 (.13) | . 65 | . 001 |
| Father report | 1.07 (.14) | . 69 | . 001 |
| Teacher report | . 53 (.10) | . 36 | . 001 |
| Externalizing |  |  |  |
| Youth report | 1.00 (.00) | . 40 | . 001 |
| Mother report | 2.00 (.24) | . 81 | . 001 |
| Father report | 2.12 (.25) | . 81 | . 001 |
| Teacher report | 1.13 (.17) | . 47 | . 001 |
| Structural model |  |  |  |
| Marital hostility to Internalizing | . 31 (.29) | . 09 | . 28 |
| Marital hostility to Externalizing | . 50 (.19) | . 21 | . 01 |
| Marital hostility to Triangulation | . 29 (.05) | . 38 | . 001 |
| Mothers' depression to Internalizing | . 69 (.24) | . 20 | . 004 |
| Mothers' depression to Externalizing | . 16 (.15) | . 07 | . 28 |
| Mothers' depression to Triangulation | . 02 (.05) | . 03 | . 62 |
| Fathers' depression to Internalizing | . 51 (.24) | . 15 | . 03 |
| Fathers' depression to Externalizing | . 51 (.16) | . 21 | . 001 |
| Fathers' depression to Triangulation | . 06 (.05) | . 08 | . 21 |
| Triangulation to Internalizing | . 73 (.35) | . 16 | . 04 |
| Triangulation to Externalizing | -. 04 (.22) | -. 01 | . 86 |

Note. CES-D $=$ Center for Epidemiological Studies on Depression Scale; BDI $=$ Beck Depression Inventory.

This conclusion is consistent with research on youths' triangulation in parental disputes that has shown a significant association with internalizing problems and lower levels of subjective well-being (Amato \& Afifi, 2006; Grych et al., 2004; Kerig, 1995). Personal dysphoria and depression might manifest because parent-child boundaries have been violated, resulting in lower feelings of personal efficacy and greater feelings of hopelessness. This conjecture has received clinical support in the examination of adolescent and young adult internalization disorders (Pillari, 1991; Stierlin, Weber, Schmidt, \& Simon, 1984). Because the early adolescents in this community sample displayed relatively low levels of problem behavior, future research needs to study youth triangulation in parental disputes in samples of youths with higher levels of problem behaviors.

The association between mothers' depressive affect and
marital hostility is well established and replicated in this study. The association between fathers' depressive affect and marital hostility, however, has been examined less frequently, and thus the significant findings from this study contribute to an understanding of the interpersonal affective context of marital functioning (Beach, 1996). Although some have suggested that the association between marital distress and personal depressive affect is stronger for women than men (Whisman, 2001), the findings from this study do not support this proposition and do highlight the importance of fathers' depressive affect within the context of marital hostility. The causal direction is not clear given the research design was cross-sectional; however, the findings suggest that marital hostility and depressive affect are positively associated for men in two-parent families with an early adolescent.

In addition, the findings from this study suggest that mothers' depressive affect and fathers' depressive affect each is uniquely associated with marital hostility, when their spouses' affect is controlled for. This supports the perspective that highlights the potential importance of fathers' mental health in understanding the process elements of family functioning (Phares \& Compas, 1992). The findings also suggest that fathers' depressive affect contributes an additional stressor to the marital functioning context and might impair relational functioning because of increased irritability or withdrawal. Families in which both parents display depressive affect and in which parents are hostile with one another are at increased risk for adjustment and development difficulties for both parents and adolescents.

Controlling for marital hostility, triangulation, and fathers' depressive affect, mothers' depressive affect was associated uniquely with adolescent internalizing problems for both sons and daughters, whereas fathers' depressive affect was associated uniquely with externalizing and internalizing problem behavior for sons. This finding replicates other studies (Brennan, Hammen, Katz, \& LeBrocque, 2002; Low \& Stocker, 2005). There are several possible explanations for this pattern of relationships. First, depressed fathers might be more likely to withdraw from or avoid interactions with their children than are depressed mothers and, in turn, sons might respond to this paternal withdrawal or absence through increased acting-out behaviors in an attempt to engage the father in the family. Furthermore, it is possible that, in families with a depressed father, mothers are more distracted, creating an atmosphere in which the youth is not monitored by either parent and has more opportunities to act out. Finally, previous research has found that mothers' depression is related more strongly to younger children's functioning whereas fathers' depression is related more strongly to older children's functioning (Connell \& Goodman, 2002). Because this was a sample of young adolescents, it is possible that the relationship between fathers' depressive affect and youth outcomes is more salient for this age group than is the relationship of mothers' depressive affect and youth outcomes. It also is possible that this finding is due to the low-risk nature of the sample, with relatively few mothers displaying clinical levels of depressive affect. It is possible that clinically depressed mothers are more likely to display more hostile and aggressive behaviors with their children and that youths of these mothers are more likely to respond with acting-out behaviors.

Observers' perceptions of parents' warmth toward the child did not moderate the effects of parents' depressive affect, marital hostility, and triangulation on adolescent problem behavior. This pattern of nonsignificant findings was contrary to the proposed buffering hypothesis. It also was contrary to the moderating effects found by Davies et al. (2002). Davies et al. found support for the theoretical proposition deduced from social learning theory that parent-child attachment insecurity exacerbates the association between marital hostility and youth externalizing problems. The findings from the current study did not replicate this pattern of vulnerability, perhaps, in part, because a number of other important variables were controlled.

There are several limitations and caveats that must be
considered when interpreting and using the findings. The findings from this study are most relevant to European American families and should be generalized to minority families with extreme caution. Future research needs to include ethnic and economic diversity to determine withinor between-group differences. Also, the majority of study participants were not displaying high levels of depression or problem behavior, so these results might not be consistent with findings from high-risk groups or clinical samples of youths. The participation rate was fairly low, and it is possible that potential participants who were displaying higher levels of parents' depressive affect did not continue in the study, limiting the generalizability of the results. Longitudinal data also are needed to test the time ordering of the proposed process patterns. The findings from this study are consistent with a process interpretation of the mediating role of adolescents' triangulation in parental disputes. However, an alternative explanation for these relationships is that youth behaviors and characteristics precede marital hostility and parents' depressive affect. Longitudinal research that has recently begun to disentangle parental and child influences of family process patterns has provided support for the importance of parental effects (Grych, Harold, \& Miles, 2003; Hops, 1996), and future research needs to continue to address this important issue. A further limitation is that triangulating behaviors were limited to parental attempts to engage the youth in marital conflict: Another component of triangulating behaviors is when youths insert themselves into the parental conflict (Davis, Hops, Alpert, \& Sheeber, 1998). Future research should examine the role of youth-initiated triangulation behaviors. It is possible that there are differences in adolescent outcomes based on whether the youth's involvement in the conflict is initiated by the parent or the adolescent chooses this as an attempt to alleviate discomfort and anxiety.

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