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Trajectories of Conflict over Raising Adolescent Children and Marital Satisfaction

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Abstract

The present study examined trajectories of marital satisfaction among couples with adolescent children and evaluated how changes in parents' conflict over raising adolescent children were associated with changes in marital satisfaction over four years. Using a prospective, longitudinal research design and controlling for family socioeconomic status, dyadic growth curve analysis from a sample of 431 couples with adolescent children indicated that marital satisfaction decreased over time for parents with adolescent children, and that the trajectories for mothers and fathers were substantially linked. More importantly, the study demonstrated that increases or decreases in parents' marital conflict over raising adolescent children were associated with corresponding decreases or increases in marital satisfaction for both mothers and fathers.

Keywords

adolescence; conflict; dyadic data; growth curve analysis; marital satisfaction; parenting

Previous research has indicated that disagreements over raising children are an important source of conflict between parents (Stanley, Markman, & Whitton, 2002). It is also well-established that marital conflict is negatively associated with marital satisfaction and positively associated with divorce (e.g., Gottman, 1994; Karney & Bradbury, 1995). However, researchers know comparatively little about how disagreements and conflict over parenting children are associated with parents' marital quality (Kluwer & Johnson, 2007). The goal of the present study is to evaluate the association between trajectories of conflict over raising adolescent children and trajectories of marital satisfaction using prospective longitudinal data. This will provide much needed data concerning links between conflict in a specific domain of family functioning and global evaluations of the marriage from a dynamic and longitudinal perspective.

Theoretical Foundations

Family systems theory (Ackerman, 1959; Bowen, 1978; Cox & Paley, 1997; Jackson, 1965; Minuchin, 1974) proposed that the family is an organized system consisting of smaller sub-systems that are interwoven into an organized and dynamic unit. A cornerstone of this approach is the postulate that family members are interdependent and emotionally connected to one another such that changes in one person's feelings and behaviors will be followed by reciprocal changes in the feelings and behaviors of others. In particular, the spillover hypothesis predicts

that negative emotions and behaviors in one family domain cross-over to other family domains (Engfer, 1988).

Consistent with the spillover hypothesis, there is evidence that negativity in the marital relationship is associated with difficulties in the parenting domain (Conger, Patterson, & Ge, 1995; Cummings, Keller, & Davies, 2005; Krishnakumar & Buehler, 2000). Based on the notion of the bi-directional influence between subsystems inherent in a family systems perspective, problems with raising children may also generate problems in marital relationships. Accordingly, we propose that conflict over raising adolescent children and marital dissatisfaction will be dynamically linked such that increases or decreases in conflict over raising adolescent children will be associated with corresponding decreases or increases in marital satisfaction.

Indeed, studies on coparenting are especially relevant to our hypothesis. Coparenting refers to the way parents coordinate their parenting and includes not only conflict between parents over child-rearing topics but also the efforts that one parent makes to support or sabotage the other (Margolin, Gordis, & John, 2001). Coparenting is a component of the interparental relationship that is directly associated with parenting (McHale, Lauretti, Talbot, & Pouquette, 2002). Several studies have examined the associations among coparenting behavior, parents' marital relationships, and adolescent adjustment (e.g., Baril, Crouter, & McHale, 2007; Feinberg, Kan, & Hetherington, 2007; Margolin et. al., 2001; Weissman & Cohen, 1985) and generally found that coparenting was positively associated with marital satisfaction. For example, Baril and colleagues (2007) found an association between coparenting conflict and marital love. Thus, the ways that spouses work together to parent their children seems to have implications for the quality of their marriages and conflict in this domain of the relationship may create marital dissatisfaction. In the present study, we focus on conflict between parents over child-rearing issues and examine the association between the trajectories of conflict over raising adolescent children and marital satisfaction.

Most of the existing studies concerning the association between conflict over raising children and marital satisfaction, however, have focused on the transition to parenthood or have highlighted challenges associated with raising small children (e.g., Belsky & Kelly, 1994; Belsky & Rovine, 1990; Cowan & Cowan, 2000; LeMasters, 1957). In general, these studies have suggested that parenting a young child tends to be positively associated with conflict and negatively associated with global marital satisfaction. For example, Kluwer and Johnson (2007) found that frequent conflict during the transition to parenthood was related to lower levels of relationship quality. However, relatively few studies have examined how conflict over raising adolescent children affects parents' marriage, especially over time.

Marital Conflict and Relationship Satisfaction in Parents of Adolescents

Conflict over child rearing could be especially salient when children are adolescents because of the psychological and social changes associated with the adolescent transition (e.g., Collins, 1990). Indeed, the adolescent transition seems to represent an important point of change in the family system that places new demands on family members, especially parents (see Steinberg, 2001). As children physically mature and become more socially active with peers, they may become more psychologically independent from parents. Adolescents may also become more skilled at argumentation given cognitive development toward more logical and abstract thinking (Steinberg, 2001). These factors may explain why the transition to adolescence is empirically associated with increases in the affective intensity of parent-child conflict (Laursen, Coy, & Collins, 1998; Smetana, Campione-Barr, & Metzger, 2006). Such parent-child difficulties may spill-over to become a source of conflict between the parents, which may in turn affect their marital relationships. In fact, during the adolescent stage, the rate of disputes

between spouses was found to be higher than any other development periods (Olson, et al., 1983). Thus, there are compelling reasons to expect that conflict over raising adolescent children may be associated with trajectories of marital satisfaction.

Given the potential importance of the adolescent stage in parents' marital relationships, however, studies on the impact of adolescent children on their parents' marriage are surprisingly scarce. Most studies have focused on the association between marital difficulties and adolescent difficulties with the assumption that marital discord engenders adjustment difficulties in children. Several recent studies have examined adolescent children's impact on their parents' marriage. For example, based on interviews with delinquent adolescents and their parents, Ambert's (2001) study suggested that adolescent problems generated conflict and arguments over child-rearing which then diminished the overall quality of parents' marital relationships. Whiteman, McHale, and Crouter (2007) found that adolescent children's pubertal development was related to changes in marital qualities. Specifically, they found that firstborn's pubertal development was associated with declines in positivity and increases in negativity in parents' marital relationships. Further, there are several studies reported reciprocal influences between adolescent maladjustment and parents' marital conflict and satisfaction (Cui, Donnellan, & Conger, 2007; Jenkins, Simpson, Dunn, Rasbash, & O'Conner, 2005). In particular, Cui and colleagues (2007) suggested that adolescent problems affected parents' marital satisfaction through increased conflict between the parents. In the present study, we focus on the linkage between conflict over raising adolescent children and marital satisfaction from a longitudinal perspective. This is an important research focus because relatively little is known about how conflict over raising adolescent children is associated with trajectories of marital satisfaction. In the present study, we addressed this issue by examining the trajectories of marital satisfaction and conflict over raising adolescent children using dyadic growth curve modeling.

Dyadic Growth Curve Modeling

Dyadic growth modeling is a data analytic technique that can provide important insights about how trajectories of dyadic variables are associated over time (Kashy & Donnellan, 2008; Kashy, Donnellan, Burt, & McGue, 2008; Kenny, Kashy, & Cook, 2006; Olsen & Kenny, 2006). This analytic approach is an extension of individual growth modeling (e.g., Duncan, Duncan, & Strycker, 2006; Willett & Sayer, 1994) to the dyadic context (e.g., Kashy, et al. 2008). For example, because reports of marital satisfaction from fathers and mothers are often substantially (although not perfectly) correlated, specialized statistical techniques and specifications are required to adequately model these data so that researchers can draw appropriate inferences from the results. By using dyadic growth modeling, we will evaluate the degree of absolute changes in marital conflict and satisfaction and examine how fluctuations in absolute changes are associated within individuals and across individuals. This focus on absolute levels of marital conflict and satisfaction is important given the suggestion that marital quality seems to be especially low during the stage in the marriage when individuals are faced with the task of parenting adolescents (e.g., Glenn, 1990; Glenn & McLanahan, 1982; White, Booth, & Edwards, 1986).

In addition to evaluating the degree of absolute changes in marital conflict and satisfaction, we will also test for potential differences between wives and husbands. This test has consequences in terms of both the practical issues of dyadic data analysis and in terms of theory about gender and the family. Methodologically, preliminary tests of gender differences can be seen as special cases of broader tests of distinguishability in the context of dyadic data analysis (see Kenny et al., 2006, p. 129–131). These tests address whether wives and husbands are significantly different (i.e. distinguishable) in terms of their average levels, amounts of variability, or patterns of covariation for conflict and satisfaction. Kenny et al. (2006) recommend that

researchers adopt different modeling approaches and modeling constraints depending on whether dyad members of indistinguishable as opposed to distinguishable. In fact, parameter tests are actually more powerful when couples are indistinguishable or interchangeable.

In terms of theory, some researchers have proposed that women are more responsive to marital conflict than men (e.g., Almeida & Kessler, 1998; Bolger, Belongis, Kessler, & Wethington, 1989; Gaelick, Bodenhausen, & Wyer, 1985). This work provides a reason to expect a stronger association between marital conflict and satisfaction for women than for men. However, it is also the case that gender differences in developmental processes are often fairly subtle and difficult to detect reliably (e.g., Cohen, Cohen, & Brook, 1995). Moreover, as Kenny et al. (2006, p. 422) pointed out, evidence for gender differences are occasionally based on flawed statistical reasoning – that is, a parameter might be statistically significant for women but not for men (or vice versa). Consider a case in which a correlation between conflict and marital quality was statistically significant for women but not significant for men. At issue, should be whether or not the coefficients (say e.g., .22 and .19) are really different from *each other*; however, researchers occasionally overlook such tests. Thus, given these competing considerations, we believe that the tests of gender differences in the present context are somewhat exploratory in nature but nonetheless essential for specifying the most powerful dyadic analyses (for further discussion see Kashy et al., 2008, p. 317 or Kenny et al., 2006, p. 422).

Overview of the Present Study

The present study was to examine trajectories of marital satisfaction among couples with adolescent children and to evaluate how changes in parents' conflict over raising adolescent children over time are associated with changes in parents' marital satisfaction. Based on the theories and research reviewed, we hypothesized that marital satisfaction would decrease over time during the period when their children were adolescents. Further, we hypothesized that increases or decreases in parents' conflict over raising adolescent children would be associated with corresponding decreases or increases in parents' marital satisfaction.

Using a sample of over 400 couples with adolescent children, we used dyadic growth curve modeling to test these hypotheses. Each of the study variables (i.e., marital satisfaction, marital conflict over raising adolescent children) was measured at four time points (i.e., 1989i.e., 1990i.e., 1991, and 1992), the period when the adolescents were from the seventh to tenth grades. In addition to addressing several important theoretical issues, the present study was both methodologically rigorous and conservative. First, the study used a prospective design and the data were collected from both wives and husbands as well as from the adolescent children. Second, many earlier studies have overlooked controls for social context when studying parent-child effects (Menaghan, 2003) and thus the present study considered whether or not findings were affected when adding controls for parents' education and family per capita income. Markers of socioeconomic status have often been shown to be important predictors of variation in family interaction processes and adolescent adjustment (Conger & Donnellan, 2007; Conger & Elder, 1994) and we wanted to insure that the focal effects of this investigation hold while controlling for socioeconomic conditions.

Third, we included adolescent gender as a control variable. Many studies have examined adolescent gender differences in response to marital conflict, but results have been inconsistent (see Cummings & Davies, 1994; Emory, 1982; Grych & Fincham, 1990). On the other hand, few studies have examined adolescent gender effect on parents' conflict and marital satisfaction (see VanderValk, De Goede, Spruijt, & Meeus, 2007). Therefore we controlled for adolescent gender in the present study to evaluate whether or not effects hold controlling for the gender of the focal adolescent; likewise, we tested whether the gender of the adolescent acted as a

moderator of the effects in question. Fourth, because it is possible that parents face more challenges and difficulties when their first child goes through adolescence (Feinberg et al., 2007; Whiteman et al., 2007), this study controlled for whether the target adolescent was the oldest child or not. Finally, the study controlled for general marital conflict to examine whether conflict over raising adolescents was just an artifact of more conflictual marriages or could explain unique variance to this association.

Method

Sample and Procedures

This study used data from the Iowa Youth and Families Project (IYFP). The first wave of data was collected during the early months of 1989 from 451 families in an eight-county area in north central Iowa. Because there were very few minority families in this rural area (less than one percent of the population), all participants were of European descent. Additional details regarding this project can be found in Conger and Elder (1994). Briefly, families were eligible to participate in the study if they had a target adolescent who was in seventh grade and was living with both of his or her biological parents and with a sibling within 4 years of his or her age. Families were recruited through both public and private schools in the eight counties participating in the study. Families in the original IYFP were interviewed annually from 1989 to 1992, the time points used in the present analyses. Of the eligible families, 78% agreed to be interviewed. Family median income from all sources for the past year (1988) was \$33,700. The median education for fathers and mothers was 13 years, and their median ages were 39 (fathers) and 37 (mothers) years. The average number of family members was 4.95. The seventh-grade target adolescents ranged in age from 12 to 14 years (M age = 12.61) and 52.33% of them were girls. The overall retention rate was over 90% over the four-year period. Further examination showed that the target adolescents with slightly less educated fathers were more likely to drop out of the study. Other than that, there was no systematic evidence of selective attrition.

During each year of data collection, interviewers visited each family in their home for approximately two hours on each of two occasions per year. During the first visit, each of the four family members completed a set of questionnaires focusing on individual family member characteristics, family relationships, and family socioeconomic circumstances. The present study used data collected from this first visit.

A common concern in longitudinal research is missing data. Of all 451 families, 20 couples divorced during the study period. As a result, these 20 families were dropped from the study. Of the remaining 431 families, 364 (84.45%) had complete information on all measures at each wave of data collection. The missing cases were largely due to unavailability of data for a specific wave of data collection rather than from families dropping out of the study entirely. For that reason, rather than deleting cases with any missing data, the present analyses used Full Information Maximum Likelihood (FIML) estimation procedures to test predicted relationships among theoretical constructs. FIML (Little & Rubin, 1987; Rubin, 1976; Schafer, 1997) computes maximum likelihood estimates and standard errors for SEM from data with missing values. Parameter estimates from FIML are less biased than ad hoc procedures such as listwise deletion, pairwise deletion or sample-mean replacement (Allison, 2003; Schafer, 1997).

Measures

Means, standard deviations, and ranges for all study measures were reported in Table 1. For testing longitudinal hypotheses concerning changes in marital conflict and satisfaction we used

measures of marital conflict over raising adolescent children and satisfaction that were obtained in 1989, 1990, 1991, and 1992.

Marital conflict over raising adolescent children—Marital conflict over raising adolescent children was assessed by reports from mothers, fathers, and the adolescent children. Each parent was asked in parenting questionnaire how often one parent disagreed with the other about punishing the adolescent child (from 1 = *never* to 5 = *always*) and in marital problem questionnaire how often one parent disagree or get upset about discipline/raising the adolescent child (from 1 = *never* to 5 = *all of the time*). The adolescent children were asked how often their father disagreed with their mother and how often their mother disagreed with their father about punishing them. The correlations among multiple reporters (i.e., mothers, fathers, and adolescent children) ranged from .20 (fathers' report with adolescents' report in 1990) to .51 (fathers' report with mothers' report in 1991). The two items were moderately to strongly correlated for each of the three reporters, ranging from .39 to .47 for fathers' reports, .40 to .48 for mothers' reports, and .62 to .69 for adolescents' reports across four waves. Given this level of consistency, a 6-item composite score was created from those individual scores from all three reporters at each wave. Alpha coefficients ranged from .71 to .76 across four waves.

Marital satisfaction—A global measure of marital satisfaction was generated by asking each parent about their marital satisfaction ("All in all, how satisfied are you with your marriage?") and marital happiness ("All in all, how happy are you with your marital relationship?"). Since marital happiness had 6 categories (0 = *extremely unhappy*, 1 = *very unhappy*, 2 = *unhappy*, 3 = *happy*, 4 = *very happy*, 5 = *extremely happy*) and marital satisfaction had 5 categories (1 = *completely satisfied*, 2 = *very satisfied*, 3 = *somewhat satisfied*, 4 = *not very satisfied*, 5 = *not at all satisfied*), two of the categories of marital happiness were combined (instead of standardizing them for growth curve modeling which would be inappropriate, "very unhappy" and "unhappy" were combined as "not very happy" so the coding became: 1 = *extremely unhappy*, 2 = *not very happy*, 3 = *happy*, 4 = *very happy*, and 5 = *extremely happy*) and combined with marital satisfaction (reverse coded) with a high score indicating a high level of marital satisfaction. The correlations between the two items ranged from .65 to .72 for fathers' reports and .73 to .82 for mothers' reports across four waves. These very strong correlations indicated a considerable level of internal consistency for the measure. Moreover, this 2-item measure has demonstrated strong convergence with the more commonly used Quality of Marriage Index (QMI, Norton, 1983). That is, we conducted supplementary analyses using data from later waves of the project when target participants were in emerging adulthood and we found a .77 correlation between this 2-item satisfaction measure and the QMI. Unfortunately, QMI data were not available for the mothers and fathers from 1989 to 1992. Finally, this 2-item measure has been used extensively by previous studies and has demonstrated good reliability and validity (e.g., Conger, Cui, Bryant, & Elder, 2000; Cui et al., 2007; Matthews, Wickrama, & Conger, 1996).

Demographic characteristics and other control variables—*Mothers' education and father's education* were assessed by the years of completed education for mothers and fathers in 1989. *Family per capita income* was also assessed in 1989. These measures were used as control variables in the analyses. *Adolescent gender* (0 = *girls*, 1 = *boys*) was also included as a control variable in the model. A dichotomous variable was created to assess whether the target adolescent is the *oldest* child or not (0 = *not oldest*, 1 = *oldest*). Finally, *general marital conflict* was assessed by asking both fathers and mothers their conflict behavior during the past month (e.g., get angry at your spouse, criticize your spouse, argue with your spouse, etc). Each parents answered 5 items ranging from 1 = *never* to 7 = *always*, the items were summed together for each parent and averaged across both fathers and mothers to create an overall parental conflict score.

Results

Before estimating the final models, we tested for differences between mothers' conflict behavior and fathers' conflict behavior over raising adolescent children. Specifically, we compared fathers' conflict with mothers (reported by fathers and adolescents) and mothers' conflict with fathers (reported by mothers and adolescents). The results indicated no significant differences in parameter estimates between mothers and fathers. Furthermore, because conflict between parents over raising adolescent children was a family-wide variable (i.e., one that differs between families), we preferred to use a composite couple score. Thus, for both statistical and theoretical reasons, parents' scores were summed together as described in the measurement section and were used in subsequent analyses.

Correlations

Correlations between all the study variables are reported in Table 2. A close inspection of Table 2 suggested at least three noteworthy observations. First, for both mothers and fathers, reports of marital satisfaction across four years were highly correlated within each person (e.g., father's report of satisfaction in 1989 with father's report of satisfaction in 1990: $r = .76$), suggesting continuity across time in reports of relationship satisfaction. Second, the correlations between fathers' and mothers' reports of satisfaction were substantial (e.g., father's report of satisfaction in 1989 with mother's report of satisfaction in 1989: $r = .42$). This indicated dependency in reports of relationship variables and reinforced the need for specialized data analytic techniques to appropriately model these responses (Kenny et al., 2006). Finally, both fathers' and mothers' satisfaction were significantly and negatively correlated with conflict over raising their adolescent children (e.g., father's report of satisfaction in 1989 with marital conflict in 1989: $r = -.32$). With these preliminary findings in mind, we now turn to the more complicated growth curve results.

Univariate Growth Curve Models

As a first step in the analyses, univariate linear growth curves for each of the variables were estimated (Karney & Bradbury, 1995). These results are displayed in Table 3. Models were estimated so that the intercept represented the initial status for variables (i.e., the 1989 values). All three linear growth models demonstrated acceptable to excellent fit. Quadratic slopes were also tested and there was no evidence of curvilinear trajectories. All of the univariate growth curves (i.e., marital conflict, father's marital satisfaction, and mothers' marital satisfaction) had significant variances in both the intercept and the slope terms, suggesting detectable variation in trajectories, a prerequisite for conducting more complicated analyses designed to identify covariates of trajectories. As reported in Table 3 (as well as Table 1), average levels of marital satisfaction decreased over the interval from 1989 to 1992.

Tests of Distinguishability by Gender

Before testing the growth curve model for the linked trajectories of mothers' and fathers' marital satisfaction, we tested whether or not fathers and mothers were empirically distinguishable in terms of their reports of marital satisfaction using procedures described by Kashy et al. (2008) and Kenny et al. (2006). This test involved evaluating the fit of a model with four sets of constraints: 1) means for marital satisfaction at each wave were constrained to the same value for mothers and fathers; 2) variances for marital satisfaction at each wave were constrained to the same value for mothers and fathers; 3) intrapersonal covariances for marital satisfaction across waves were constrained to the same value for mothers and fathers (e.g., the association between father reports of satisfaction in 1989 and father reports of satisfaction in 1990 was fixed to the same value as the association between mother reports of satisfaction in 1989 and mother reports of satisfaction in 1990); and 4) interpersonal covariances across waves were constrained to the same value for mothers and fathers (e.g., the

association between father reports of satisfaction in 1989 and mother reports of satisfaction in 1990 was fixed to the same value as the association between mother reports of satisfaction in 1989 and father reports of satisfaction in 1990). The only associations that were freely estimated were the within-wave correlations between husband and wife reports of satisfaction (e.g., the association between wife reports of satisfaction in 1989 and husband reports of satisfaction in 1989). There would be no evidence for distinguishability if the proposed model fit the data, following the logic outlined by Kenny et al. (2006, p. 113–114, 129–131). As noted in the introduction, Kenny et al. (2006) recommended that researchers specify dyadic growth models for indistinguishable or interchangeable dyads in the absence of convincing evidence for distinguishability (see also Kashy et al., 2008).

As it turned out, the chi-square test for distinguishability was not statistically significant, indicating that there were no statistically detectable gender differences for marital satisfaction ($\chi^2 = 20.22$, $df = 20$, $p = .44$). This result was consistent with the inspection of the results in Table 3 which indicated that fathers and mothers had very similar intercepts, slopes, and correlations between slopes and intercepts for marital satisfaction. Based on this result, we specified dyadic growth models for the interchangeable or indistinguishable case. An additional virtue of conducting this preliminary test of distinguishability is that the obtained chi-square value is the same value that is used to “correct” goodness of fit indices when specifying models for interchangeable dyads using SEM (see Kashy et al., 2008; Olsen & Kenny, 2006). In other words, the test for distinguishability yields the same chi-square model fit value as the so-called “I-SAT” model that Olsen and Kenny (2006) used to correct for the arbitrary misfit that occurs when using SEM packages to estimate dyadic growth models for the interchangeable or indistinguishable case (see also Kashy et al., 2008).

Dyadic Growth Models

Figure 1 illustrated the interchangeable dyadic growth curve model for testing the linked trajectories of mothers’ and fathers’ marital satisfaction. Because marital dyads were empirically indistinguishable (from the test described above), the corresponding paths for mothers and fathers were fixed to the same value. For example, the coefficient from the intercept for mother’s satisfaction to the slope for fathers’ satisfaction was fixed to the same value as the coefficient from the intercept for father’s satisfaction to the slope for mothers’ satisfaction (i.e., the “f” paths in Figure 1). The model fit indices for this model were: $\chi^2_{(28)} = 42.17$, Tucker-Lewis index (TLI) = .99, root mean square error of approximation (RMSEA) = .03. After adjusting the model fit using appropriate procedures suggested by Olsen and Kenny, the model indicated a reasonable fit to the data (adjusted $\chi^2 = 21.95$, $df = 8$; adjusted TLI = .98, adjusted RMSEA = .06). The overall mean intercept value was 7.97 (Variance = 1.92) and the overall slope value was $-.12$ (Variance = .09), values which were similar to the univariate results reported in Table 3. In other words, the starting value for satisfaction was 7.97 and the average linear decrease was .12 scale points per year.

The important dyadic parameters from this model were the correlation between intercepts for wives and husbands ($r = .55$, $p < .01$) and the correlation between slopes for wives and husbands ($r = .65$, $p < .01$). These positive correlations suggested that there was a strong coupling of intercepts and slopes for marital satisfaction; mothers and fathers seem to follow similar patterns of marital satisfaction in terms of their initial status and amount of increases or decreases over time. The correlation between one partner’s intercept and the other partner’s slope could also be of interest, but it was not statistically significant in these analyses ($r = -.16$, $p = .07$). In sum, we found evidence that trajectories of marital dissatisfaction were linked for mothers and fathers.

Models of Marital Conflict over Adolescent Children and Marital Satisfaction

To provide a very rigorous evaluation of the association between marital conflict over adolescent children and marital satisfaction, control variables (father education, mother education, family per capita income, adolescent gender, oldest child, and general marital conflict) were first included in the dyadic growth model. Given the evidence of indistinguishability between the trajectories of fathers' and mothers' marital satisfaction, we constrained the corresponding paths from the control variables to the constructs of fathers' and mothers' marital satisfaction to be equal (e.g., the path from family per capita income to father satisfaction intercept was constrained to the same value as the path from family per capita income to mother satisfaction intercept). A comparison between this model and model with all such paths freely estimated yielded a non-significant chi-square change. Thus, as the more parsimonious model fit the data as well as the less parsimonious model, we preferred the "constrained" model. The correlations between the control variables and explanatory variables (conflict) and the path coefficients from the control variables to the outcomes (satisfaction) were displayed in Table 4. The most significant finding was the association between general marital conflict and marital conflict and satisfaction (e.g., the correlation between general marital conflict and conflict over raising adolescent child intercept: $r = .53, p < .01$). Adolescent gender did not show significant associations with any of the variables of interests. Adolescent gender was also tested as a potential moderating effect using multiple group comparisons and no significant effect was detectable.

After examining the control variables, we turned to the primary focus of the dyadic growth model the association between the explanatory variables (conflict) and the outcome variables (satisfaction). We tested the model with and without the control variables and the results revealed the same pattern. Because the inclusion of the control variables did not change the relations among the variables of interest, they were not included in the final model to aid a clearer presentation of the theoretically-relevant findings. The results for marital conflict and mothers' and father's marital satisfaction were reported in Figure 2. After adjusting the fit indices (see Olsen & Kenny, 2006), the model indicated reasonable fit (adjusted $\chi^2_{(21)} = 37.70$, adjusted TLI = .99, adjusted RMSEA = .04). Given the result from the test for distinguishability that fathers and mothers should be regarded as interchangeable when considering marital satisfaction, equality constraints were also included in the model such that parameter estimates for mothers and fathers were fixed to the same value. The results in Figure 2 showed that increases or decreases in marital conflict during adolescence predicted corresponding decreases or increases in fathers and mothers' marital satisfaction ($b = -.28, p = .05$). Also, the intercept for marital conflict (the initial level) was negatively related to the intercept of fathers' and mothers' marital satisfaction ($b = -.40, p < .01$). Thus, consistent with our hypothesis, changes in conflict over child-rearing were negatively associated with changes in marital satisfaction.

Discussion

Based on a family systems framework, we hypothesized that trajectories of marital satisfaction would be associated for fathers and mothers and that trajectories of satisfaction would be associated with trajectories of marital conflict over raising adolescent children. Results from the dyadic growth curve analyses provided support for both hypotheses: trajectories of satisfaction were tightly coupled across dyad members, and increases and decreases in parents' marital conflict over raising adolescent children were associated with corresponding decreases and increases in parents' marital satisfaction over a 4-year period, a stage when the focal child in the study was transitioning from early- to mid- adolescence. Moreover, our work provided an illustration of how to test for distinguishability and how to use SEM to estimate dyadic

growth models for interchangeable pairs (Kashy et al., 2008; Olsen & Kenny, 2006). We now comment on the major findings.

First, the present study indicated that fathers' and mothers' satisfaction were linked over time (see Figure 1). In other words, women and men in established marriages with adolescent children had similar levels of marital satisfaction and follow similar trajectories over time such that marital satisfaction appeared to change in concert for wives and husbands. Moreover, there was no compelling evidence for gender differences in the shape of these trajectories or to the degree that trajectories of satisfaction were linked across the dyad. Thus, we found no support for a gender difference model for this variable. On the one hand, this null result could be due to statistical power limitations in growth models to detect subtle gender differences; however, on the other hand, this null result may mean that gender differences were not relevant for the processes we investigated. Similarly, it should be noted that even though we did not find significant effects from one partner's satisfaction intercept to another's satisfaction slope ($-.16$, in Figure 1), this does not necessarily mean that such an effect is truly absent because of the limitations of statistical power. We think that power is a concern for future replications as well given recent concerns about the power of correlated growth models (Hertzog, Lindenberger, Ghisletta, & von Oertzen, 2006).

Second, the present findings provided empirical support for the idea that the parenting of adolescents can be stressful for marriages. Previous studies have generally focused on the effect of parents' marriage on children (e.g., Cui, Conger, & Lorenz, 2005; Cummings & Davies, 1994; Emery, 1982; Grych & Fincham, 1990), with only a small body of research examining child effects on parents' marriage (Ambert, 2001; Cui et al., 2007, Jenkins et al., 2005; Whiteman et al., 2007). In the present study, we found that marital satisfaction also decreased over time for both parents of adolescent children. This trend is consistent with the idea that marital satisfaction declines during the phase in the marriage when parents are faced with the task of parenting adolescents.

To be clear, we are not claiming that it is more stressful to parent adolescents than younger children as our analyses simply cannot address this issue. Likewise, we are not claiming that adolescence is an terribly stormy or stressful time in the life span as such a strident viewpoint appears to be inconsistent with the science of adolescent development (see e.g., Petersen, 1988; Steinberg, 2001). Instead, we are making the more modest claim that there might be noteworthy challenges involved in the parenting of adolescents that can spillover to the marital union. Arnett (1999) noted that there is at least a kernel of truth to the idea that adolescence is a time of relative storm and stress in the life span and he cited increases in risk behavior and mood disturbances to support his argument. Most relevant for our claim, is his point that conflict between parents and children increases during this time of the life span and the evidence that parents themselves perceive adolescence as "the most difficult stage of their child's development" (Arnett, 1999, p. 319). Likewise, Steinberg (2001) acknowledged that "to characterize the storm-and-stress view as entirely wrong as many writers, including myself, have done is not entirely true." (p. 5). He suggested that conflicts with their adolescents may be distressing for parents and concluded that "researchers have not paid enough attention to the mental health or psychological needs of parents with teenagers" (p. 7). Likewise, we argue that researchers may want to consider whether the *potentially* stressful task of parenting a teenager also has implications for marital satisfaction.

Indeed, our work suggested that the "developmental task" of parenting an adolescent may have implications for marital relationships. In particular, these findings highlight the fact that the parenting of adolescents may prompt conflict which can affect global evaluations of the marriage. This observation may have clinical relevance for relationships therapists who work with couples with adolescent children. Quite simply, clinicians who work to improve the

marriages of parents of adolescents may wish to consider whether assistance with parenting and the management of parenting-related conflicts may help to address some of the needs of the distressed couple.

In sum, the present study made several important contributions to this literature about conflict and marital quality by highlighting the relatively strong coupling of marital satisfaction within established dyads and by drawing attention to the possibility that parenting an adolescent can be stressful for marriages. Besides the theoretical importance, the present study also demonstrated the use of dyadic growth models for interchangeable dyads. Using dyadic growth modeling, the findings from this study extended earlier work by demonstrating that increases or decreases in marital conflict over raising adolescent children were associated with absolute changes in marital satisfaction. Moreover, the present study had several important methodological strengths such as a prospective, longitudinal research design with multiple assessments from both members of the marital dyad as well as from the adolescent children, and the inclusion of several control variables including general marital conflict to examine the unique associations between conflict over raising adolescent children and marital satisfaction.

This study, however, had its own limitations. First, participants were European American and resided in rural areas. Future studies need to test the generalizability of the study findings to the general populations as well as high risk populations (e.g., substance-abusing parents, parents in impoverished, high-crime, urban settings). Earlier replications of other findings from this panel study with urban (e.g., Conger, et al., 1995) and minority (e.g., Conger et al., 2002) families and adolescents, however, increase our confidence in the generalizability of the findings. Second, in terms of family structure, all adolescent children in this sample lived with their biological parents during the study period. Thus, we are not sure how to generalize the results to step-families. There is the evidence from a national survey that conflict over children had surpassed money to become the number one argument starter in stepfamilies (Stanley et al., 2002). Therefore, stepparents with adolescent children could experience even higher levels and increases in conflict between parents over raising adolescent children. Indeed, the study dropped the 20 families whose parents divorced over the four year period of study due to missing data on marital conflict after divorce. Therefore, this study is likely to provide a conservative estimation of the associations in questions given that the most dissatisfied parents likely divorced, thus attenuating variability in the variables in question. Further research is needed to study marital conflict and satisfaction for stepfamilies and divorced parents.

Third, this study focused on the 7th grade adolescent who participated in the study. These families also had other children who were not included in the present analyses and would be important for future studies to examine the effects of all children in the family on parents' marriage. Fourth, we focused on specific conflict over raising adolescent children, future studies could benefit from looking at other dimensions of parental conflict (Grych & Fincham, 1990), such as conflict intensity and resolution. Fifth, the measure of marital satisfaction contained only 2 items for each parent. However, as indicated earlier, the two-item measures demonstrated adequate reliability and good validity for making inferences about marital happiness (e.g., Conger, et al., 2000; Cui et al., 2007; Matthews, et al., 1996). Nonetheless, the present results suggested that future studies with longer measures of marital satisfaction would likely provide interesting results given that shorter measures often provide diminished power to detect effects. Finally, this is ultimately a correlational study and we considered that conflict was an antecedent of satisfaction from a theoretical point of view. Such an assumption is of course open to debate; however, Kluwer and Johnson (2007) also suggested that conflict is more likely to be a determinant rather than a pure consequence of relationship quality. Nevertheless, future studies are needed to study the alternative hypotheses and possible reciprocal effects between trajectories of marital conflict and satisfaction (Cui et al., 2007).

Despite the limitations, the present study indicated that the functioning of the marital dyad is linked with parents' conflicts over childrearing. This finding is consistent with a key tenant of family systems perspectives and helps to emphasize the interconnectedness of relationships and roles within the family. Most notably, this study highlighted the possibility that parenting an adolescent can produce challenges for the marital dyad. The task for future work is to replicate these findings and then to find ways to help husbands and wives constructively handle the challenges of raising adolescent children.

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Figure 1.

Dyadic growth curve model for linked trajectories of mothers' and fathers' marital satisfaction. Standardized coefficients. After adjusting the model χ^2 by I-SAT model, the adjusted $\chi^2_{(8)} = 21.95$, adjusted TLI = .98, adjusted RMSEA = .06. $^{**} p < .01$, two-tailed.

Figure 2.

Linked growth curve model for marital conflict and fathers' and mothers' marital satisfaction. Standardized coefficients. After adjusting the model χ^2 by I-SAT model, the adjusted $\chi^2_{(21)} = 37.70$, adjusted TLI = .99, adjusted RMSEA = .04. * $p < .05$, ** $p < .01$, two-tailed.

Table 1

Means, Standard Deviations, Ranges, and Alpha Coefficients for Study Variables (N = 431)

Measure	Mean or n	SD	Range
Parents' Marital Conflict over Raising Adolescent Children			
1989	13.68	2.97	4 – 24
1990	13.53	2.79	6 – 25
1991	13.60	3.11	6 – 25
1992	13.61	3.13	6 – 24
Fathers' Marital Satisfaction			
1989	7.99	1.52	4 – 10
1990	7.89	1.61	4 – 10
1991	7.72	1.68	3 – 10
1992	7.65	1.67	2 – 10
Mothers' Marital Satisfaction			
1989	7.93	1.56	2 – 10
1990	7.87	1.65	2 – 10
1991	7.71	1.83	2 – 10
1992	7.55	1.69	2 – 10
Control variables			
Fathers' education	13.53	2.13	8 – 20
Mothers' education	13.31	1.65	9 – 18
Family per capita income	8631	5475	–25038 – 41625
Adolescent gender			
Adolescent boys	210		
Adolescent girls	221		
Oldest Child			
Yes	174		
No	257		
General Marital Conflict	13.47	3.86	6 – 29.50

Note. Negative incomes indicate more debts than incomes.

Correlations among Variables in the Models

Table 2

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
1. Father Satisfaction '89	1.00																	
2. Father Satisfaction '90	.76**	1.00																
3. Father Satisfaction '91	.65**	.69**	1.00															
4. Father Satisfaction '92	.56**	.63**	.65**	1.00														
5. Mother Satisfaction '89	.42**	.41**	.36**	.30**	1.00													
6. Mother Satisfaction '90	.39**	.47**	.40**	.30**	.70**	1.00												
7. Mother Satisfaction '91	.40**	.46**	.50**	.39**	.65**	.69**	1.00											
8. Mother Satisfaction '92	.29**	.35**	.38**	.43**	.60**	.62**	.66**	1.00										
9 Conflict over child '89	-.32**	-.29**	-.25**	-.26**	-.32**	-.30**	-.32**	-.31**	1.00									
10. Conflict over child '90	-.27**	-.27**	-.25**	-.30**	-.32**	-.31**	-.34**	-.37**	.70**	1.00								
11. Conflict over child '91	-.28**	-.28**	-.26**	-.29**	-.28**	-.27**	-.37**	-.38**	.66**	.72**	1.00							
12. Conflict over child '92	-.24**	-.25**	-.22**	-.35**	-.27**	-.27**	-.34**	-.38**	.60**	.68**	.73**	1.00						
13. Father Education	-.09	-.07	-.04	.03	.01	-.03	.08	-.02	.04	.03	-.03	-.02	1.00					
14. Mother Education	-.01	.01	.01	.01	-.02	-.01	-.00	-.02	-.01	-.07	-.05	-.08	.46**	1.00				
15. Family Per Capita	.01	.04	.03	.03	.07	.07	.07	.10	.03	.01	.01	.04	.24**	.29**	1.00			
16. Adolescent Gender	.07	.08	.01	-.02	.02	.02	-.04	.02	.04	.05	.02	.03	-.07	.01	-.03	1.00		
17. Oldest Child	.09	.10*	.12*	.08	.06	.00	.08	.05	-.02	-.06	.00	.01	.04	.07	-.06	.08	1.00	
18. General Marital Conflict	-.45**	-.36**	-.39**	-.30**	-.56**	-.46**	-.46**	-.38**	.47**	.41**	.40**	.38**	-.06	-.05	-.06	-.03	-.04	1.00

Note. N = 431. Target adolescent gender: 0 = *girl*, 1 = *boy*. Oldest child: 0 = *no*, 1 = *yes*.

**
p < .01. Two-tailed.

Table 3

Results from Linear Univariate Growth Models

Measure	Mean	Variance	χ^2 (df=5)	TLI	CFI	RMSEA
Parents' Marital Conflict over Raising Adolescent Children						
Intercept	13.59**	6.01**				
Slope	-.03	.27**				
Model Fit			7.09	1.00	1.00	.03
Fathers' Marital Satisfaction						
Intercept	7.99**	2.00**				
Slope	-.12**	.11**				
Model Fit			3.71	1.00	1.00	.00
Mothers' Marital Satisfaction						
Intercept	7.95**	1.89**				
Slope	-.12**	.07**				
Model Fit			11.55	.98	.99	.06

Note. Slope Indicators for the 1989, 1990, 1991, and 1992 assessments were set to 0, 1, 2, and 3, respectively. Correlation between Slope and Intercept for Conflict = -.16 ($p = .16$); Correlation between Slope and Intercept for Father's Satisfaction = -.35 ($p < .05$); Correlation between Slope and Intercept for Mother's Satisfaction = -.21 ($p = .12$).

** $p < .01$. Two-tailed.

Table 4

Correlations and Path Coefficients Associated with Control Variables

Control Variables	Correlation with		Path Coefficients Predicting					
	Conflict over Children		Father Satisfaction		Mother Satisfaction		Slope	Slope
	Intercept	Slope	Intercept	Slope	Intercept	Slope		
Father Education	.07	-.15	-.12**	.08	.01	-.11		
Mother Education	-.02	-.09	.01	-.08	-.09**	.07		
Family Per Capita Income	.03	.02	.05	.07	.05	.07		
Adolescent Gender	.06	-.03	.04	-.09	.04	-.09		
Oldest Child	-.04	.09	.07	.04	.07	.04		
General Marital Conflict	.53**	-.09	-.51**	.27**	-.51**	.27**		

Note. N = 431. Adolescent gender: 0 = *girl*, 1 = *boy*. Oldest child: 0 = *no*, 1 = *yes*.

**
p < .01. Two-tailed.