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Reciprocity in Parenting of Adolescents Within the Context of Marital Negativity

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Abstract

We investigated the degree to which parents become more similar to each other over time in their childrearing behaviors. Mothers and fathers of 451 adolescents were assessed at three points in time, with 2-year lags between each assessment. Data on parent warmth, harshness, and monitoring were collected by parent self-report, adolescent report, and observer ratings of family interactions. After controlling for earlier levels of parenting, parent education, and adolescent deviancy, spouse's parenting and marital negativity were significant predictors of later parenting. Marital negativity tended to be a stronger predictor of fathering than mothering. For fathers, associations between spouse's parenting and later fathering were strongest in marriages characterized by low negativity.

Keywords

Parenting style; childrearing practices; family systems theory; marital relations

One of the most studied and most supported influences on child development is parenting (Maccoby, 2002), hence understanding the myriad factors that affect parenting behaviors is of great theoretical interest (Luster & Okagaki, 2005). A sizable literature suggests that a person's style of parenting is associated with characteristics of one's spouse (e.g., Bonds & Gondoli, 2007). One mechanism that has been studied has been the coparenting relationship (McHale, Lauretti, Talbot, & Pouquette, 2002), whereas other studies have focused on the degree to which the marital subsystem is associated with the parent-child subsystem (Erel & Burman,

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1995). To date, however, few studies have predicted one parent's childrearing behavior from the parenting of her or his spouse. The current study addresses the degree to which childrearing behavior can be predicted over time from the parenting of one's spouse and from the quality of the marital relationship. Finally, the current study asks whether associations between mothering and fathering over time are moderated by the quality of the marital relationship. We also consider socioeconomic and adolescent influences in this process, as reviewed in the following discussion.

Parenting Similarity in the Context of Marriage

Interparental influences may be especially salient during adolescence, which is characterized by changes in cognition (Keating, 1990), time spent with family (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996), and identity (Steinberg & Silk, 2002). Many changes also occur with regard to parenting behaviors. For example, parents grant increased autonomy to the adolescent (Hodges, Finnegan, & Perry, 1999). Changes also occur in parent-child relationship quality (Montemayor, 1986) and there are shifts in parental warmth and monitoring (Crouter & Head, 2002) as these behaviors take different forms and serve different purposes in adolescence relative to preadolescence. There is evidence that these adaptations in parenting lead to healthy adolescent development (Reuter & Conger, 1998). Thus, many studies have revealed significant changes in parenting during adolescence (Laird, Criss, Pettit, Dodge, & Bates, 2008). Because of this fluidity in parenting during this age period, it is an appropriate point in development at which to conduct an investigation of reciprocal associations between spouses. That is, if one parent's childrearing style influences the other's, these effects should be most evident during developmental periods that call for adjustments in parenting behavior.

Despite the possibility of interparental influence, Belsky (1981, *p.*17) observed that "With regard to influences within the family, there exists a complete absence of information on the kinds of cross-parent learning that may go on between mothers and fathers." Little progress has been made in this area since Belsky's observation. To date, little, if any, literature has addressed the degree to which one parent's caregiving longitudinally predicts the other's caregiving, although differences in caregiving tend to be modestly correlated within families at any one point in time (e.g., Sandler, Miles, Cookston, & Braver, 2008). There is also some evidence that correlations between parents persist over time (Belsky & Fearon, 2004). Several different mechanisms may account for a positive association between spouse and partner's quality of parenting over time.

Part of the reason spouses may be similar in their parenting relates to assortative mating. Research by Agrawal and colleagues (2006), for example, suggests that people who are prone to warmth or harshness will marry spouses with similar propensities. In turn, spouses may reinforce one another's propensities by creating an environment that facilitates their expression. This perspective is consistent with social learning theory (Bandura, 1977) which also predicts reciprocal associations in parenting for at least three reasons. First, parents witness countless exchanges between their spouses and children and may emulate the parenting behavior they see. Engaging in similar behavior as the spouse can be an adaptive strategy when a parent is looking for a guide to childrearing practices. Second, copying the parenting behavior of the spouse may also lead to approval or reinforcement by the spouse. Finally, because the parent likely witnessed the reaction of the child to the spouse's prior parenting, imitating the parenting behavior of the spouse provides the added benefit of anticipating how the child will respond to such parenting in the future.

Another impetus to mutual parenting influences has to do with how parents work together to raise their children. Recent work on coparenting (Bonds & Gondoli, 2007) suggests that parents who discuss and coordinate their parenting efforts reap benefits in terms of the parent-child

relationship as well as the marital relationship. According to this perspective, parents become more like each other over time as part of an ongoing process of negotiation regarding childrearing.

Consistent with these observations, our first hypothesis is that the parenting of one spouse will predict the later similar parenting of their partner, after controlling for initial levels of partner's parenting. That is, we expect that one spouse will predict rank order change in their partner's parenting over time. However, different types of parenting are not highly correlated (Lamb, Pleck, & Levine, 1985) and appear to have different antecedents (Radin, 1993). For example, employment-related variables (Yeung et al., 2001), parent endorsement of gender roles (Cabrera et al., 2000), and maternal gatekeeping (McBride et al., 2005) are more consistently associated with management-based parenting, like discipline and monitoring, than with affect-related parenting dimensions like harshness. Because affect-based parenting dimensions may have different predictors than management-based dimensions like monitoring or discipline (Stattin & Kerr, 2000), we examined hypothesis 1 in relation to two affect-based parenting dimensions (i.e., warmth and harshness) as well as a management-based parenting dimension (i.e., monitoring).

Marital Conflict and Parenting Practices

In addition to the parenting of the spouse, the quality of the marital relationship should predict changes in parenting. Numerous studies have demonstrated an association between marital conflict and parenting (Erel & Burman, 1995). Marital negativity is associated with increased hostility toward the child (Harold, Osborne, & Conger, 1997) and decreased warmth (Vandewater & Lansford, 1998) and engagement (Kitzmann, 2000). These associations are often explained by arguing that negative affect from one family subsystem 'spills over' into other family subsystems (Margolin et al., 2001). Disruptions in the marital system could also lead to poorer parenting because parents expend more emotional energy on the spousal and less on the parent-child relationship (Easterbrooks & Emde, 1988). Based on this literature, our second hypothesis is that marital negativity will predict lower parental warmth and monitoring and greater harshness toward the adolescent.

Does Marital Conflict Moderate Interparental Associations in Parenting Behaviors?

An early review of the role of the family system in development suggested that positive parenting behaviors "...can be acquired through contact with a more competent partner, but only when the marital relationship that exists between spouses is mutually supportive (Belsky, 1981, p.17)." To our knowledge, no studies have investigated whether the interparental relationship affects the degree of interparental correspondence in parenting. However, three areas of prior research anticipate this effect. First, work on "social proof" (among unrelated adults) suggests that we tend to model our behavior after people we perceive to be like us and those most familiar to us (Festinger, 1954). By extension, people would be most likely to adopt their spouse's parenting practices if they have positive feelings toward their spouse and would be less likely to model the spouse's behavior if they have a conflicted or poor relationship (McHale, 1995) or when they are ineffective in working as a team (Westerman & Schonholtz, 1993). On the other hand, a strong marital alliance facilitates parents' cooperation in parenting (Minuchin, 1974), either via imitation of the spouse or from spouses playing different but complementary roles (McHale, 1995).

A second area of research that anticipates marital quality moderation of parental similarity in parenting behaviors involves the suggestion that the marital system can influence the association between the father- and mother-child subsystems (Belsky, 1981). We found only one study with data germane to this line of reasoning; Brody, Pellegrini, and Sigel (1986) found that couples with fewer marital problems had more similar parenting behaviors during a

teaching task. However, the data employed in that study were cross-sectional and could not address questions of directionality. In the current study, we predict that the degree to which one parent's childrearing practices can be predicted by spouse's parenting will be greater in families characterized by low amounts of marital negativity and therefore lower in families with high amounts of marital negativity.

The Possibility of Unequal Effects for Mothers and Fathers

A consideration relevant to these three hypotheses is the possibility that one parent may be more influenced by their spouse's parenting or by the marital relationship than the other parent. Several lines of thought support this possibility. First, some work suggests that compared to mother's, father's parenting behaviors are more malleable (Belsky, Gilstrap, & Rovine, 1984) and susceptible to environmental influences (Cabrera et al., 2000). Mothers are often viewed as the more skilled parent (Belsky, 1981), which could make fathers more likely to mimic mothers' parenting, and mothers less likely to look to fathers' parenting as a reference point. In addition, some prior work suggests fathering may be more strongly associated with marital dimensions than mothering (Baum, 2003). Given the relative lack of research in this area, however, we expect no difference in the magnitude of cross-parental effects across mothers and fathers with regard to hypotheses 1–3. Nevertheless, we will be evaluating this possibility.

Other Variables That Might Account for Reciprocal Associations Between Spouses

Parenting in adolescence involves a renegotiation between parents & children (Steinberg & Silk, 2002), making this a period when parent behaviors may be strongly predicted by child behaviors. Because adolescent behavior could predict similar changes in both parents, it may account for any observed reciprocal association between spouses' parenting. Because adolescent deviant behavior has a demonstrated relationship with parenting (e.g., Stewart, Simons, Conger, & Scaramella, 2002), we control for adolescent deviance in our analyses. Moreover, because prior reviews of work on socioeconomic status (SES) and parenting (Leyendecker, Harwood, Comparini, & Yalçinkaya, 2005) suggest that parent SES may also predict changes over time in parenting, we also include an index of parents' education in the current analyses. We use education because it is one of the most widely used indicators of SES and considered by many to be the canonical element of SES due to its influence on later income and occupation (Krieger, Williams, & Moss, 1997).

The Current Study

To our knowledge, this report is the first to examine the degree to which one parent's parenting behavior directly predicts the spouse's parenting behavior over time. The current study addresses many gaps in the current literature by (1) investigating more than one dimension of parenting (Krishnakumar & Buehler, 2000), (2) using multiple waves of data (Feinberg, Kan, & Hetherington, 2007), and (3) including trained observer as well as family reports of parenting (Bonds & Gondoli, 2007). Furthermore, we included both affect-based parenting dimensions (i.e., parental warmth and harshness) and a management-based dimension (i.e., parental monitoring of adolescent). We included both marital negativity and spouse's parenting as simultaneous predictors of later parenting. Our first hypothesis proposed that the parenting style of one parent will be positively related to the later parenting of his or her spouse, after controlling for prior levels of spouse's parenting. Second, we hypothesized that marital negativity will predict less parental warmth and monitoring and more harshness toward the adolescent. Third, we hypothesized that the degree to which one spouse's parenting behavior can be predicted by partner's parenting will be greater in families characterized by lower amounts of marital negativity.

Method

Participants

Data for the present study were collected as part of a broader project concerned with the life course trajectories of parents and their children. A sample of 451 two-parent families was recruited via telephone through the cohort of all seventh-grade students (ages 12–13), male and female, in eight counties in north central Iowa who were enrolled in public or private schools during winter and spring of 1989. An additional criterion for inclusion in the study was the presence of a sibling within four years of age of the focal seventh grader. However, analyses for the present study focused only on parenting practices directed toward the seventh grader, thereby controlling for the age of the child who was the focus of the parents' behavior.

Seventy-seven percent of the eligible families agreed to participate in the study. This is comparable to the response rates reported by other community studies that attempt to recruit multiple family members (e.g., Parke et al., 2004). Families were assessed in 1990, 1992, and 1994, and 95% of the families were retained through the 1994 assessment. Families in the present project received \$250 for their effort, which translated into about \$10 per hour for each family member's time.

The families in the study lived on farms (about one-third) or in small towns. Because minority families are very rare in rural Iowa, all of the families were white, and annual income ranged from \$0 to \$135,000 with a mean of \$29,642. Families in the study, then, were generally low to moderate income. Father education ranged from 8 years to 20 years, with an average of 13.48 years, and a standard deviation of 2.13 years. Mother education ranged from 9 years to 18 years, with an average of 13.28, and a standard deviation of 1.65 years. Mother and father education were moderately correlated ($r = .46$). The fathers ranged in age from 31 to 68, with a median of 40 years; mothers' ages ranged from 29 to 53, with a median of 38 years. Because families of less than four were excluded from the sampling frame, the families were larger on average than would be expected from a general population survey. Families ranged from 4 to 13 members with an average of 4.9 members. Adolescents were approximately evenly split across gender. Families who dropped out of the study after 1990 were not significantly different from families who stayed in the study with regard to family income, education, parenting (i.e., warmth, harshness, monitoring), and marital negativity.

Procedures

Each family was visited twice at their home each year of assessment. The purpose of two visits was to distribute data collection and reduce respondent fatigue. During the first visit, each of the three family members completed a set of questionnaires focusing on family processes, individual family member characteristics, and socioeconomic circumstances. On average, it took approximately two hours to complete the first visit. Between the first and second visits, family members completed questionnaires left with them by the first interviewer. These questionnaires dealt with information concerning the parents' parents, beliefs about parenting, and plans for the future. Each family member was instructed to place his or her completed questionnaire in an envelope, seal it, and give it to the interviewer at the time of the second visit.

The second visit usually occurred within one or two weeks after the first visit and consisted of three structured interaction tasks. The second visit began by having each individual complete a short questionnaire designed to identify issues of concern that prompted disagreements within the family (e.g., chores, recreation, money, etc.). The family was then videotaped while engaging in four separate structured interaction tasks: a family discussion task (task 1), a family problem-solving task (task 2), a marital couple task (task 3), and a sibling interaction task (task

4). Tasks 1, 2, and 3 were used in the present analyses. To start the process, interviewers explained task 1, gave the task cards to a family member, and then left the room while the family members (mother, father, the target adolescent, and a sibling) discussed issues raised by the task cards, including when problems usually come up, what happens, and why particular problems exist for that family. The family members were given 30 min to complete this task (task 1). The second task (task 2), 15 min in length, also involved the same four family members. For this task, the family was asked to discuss and try to resolve issues and disagreements they had cited as most problematic in a questionnaire they had completed earlier in the visit. The third task (task 3) involved the mother and father and lasted for 30 min. Spouses were asked to discuss issues related to aspects of their relationship, areas of agreement and disagreement (e.g., parenting, finances), and their plans for the future. The second visit lasted approximately 2 hours.

The videotaped interactions were rated by project observers using the Iowa Family Interaction Rating Scales (Melby et al., 1991). The project observers were staff members who had received several weeks of training on rating family interactions and specialized in coding one of the interaction tasks. Different observers rated the parents during the different years of assessment. Before observing tapes, coders had to independently rate precoded interaction tasks and achieve at least 90% agreement with that standard. For purposes of assessing interobserver reliability, 25% of the tasks were randomly selected to be observed and rated by a second observer.

Measures

Parental warmth—Mothers and fathers completed a self-report inventory of warmth (5 items) at each assessment (Thornberry, 1989). Sample items include “When your 7th grader has done something you like or approve of, how often do you let him/her know you are pleased about it?” and “How often do you ask your 7th grader what he/she thinks before deciding on family matters that involve him/her?” Item responses ranged from 1 = always to 5 = never. Adolescents also completed a parallel scale of five items rating each parent on parental warmth. Items were coded so that higher scores represent greater warmth toward the adolescent.

Trained observers watched two videotaped interactions between the parents and child (tasks 1 and 2 described earlier) and rated both parents on a nine-point scale on the degree to which they showed warmth toward the target (showed liking, appreciation), gave prosocial responses to the target (cooperative, respectful), and were positively assertive (was direct, empathetic, and positive) toward the target. Parent self-report, adolescent report, and observational data were collected in 1990, 1992, and 1994. Observer ratings in 1992 and 1994 were on a nine-point scale, but were recoded to five point scales so as to have possible ranges equal to the parent and adolescent reports. Internal consistency reliability for all scales was acceptable at each timepoint (mean $\alpha = .82$ for parent self-report, .87 for adolescent report, .85 for observer ratings). The average intraclass correlation for all three observed scales across timepoints was .58. The parent self-report, adolescent report, and observer rating of parent at each time point were combined into three parcels; this process is explained further in the analysis section.

Parental harshness—Parents completed a self-report inventory of harshness (6 items) at each assessment (Thornberry, 1989). Sample items include “When your 7th grader does something wrong, how often do you lose your temper and yell at him/her?” and “How often do you spank or slap your 7th grader when he/she does something wrong?” Item responses ranged from 1 = always to 5 = never. Adolescents also completed a parallel scale of six items rating each parent on parental harshness. Items were coded so that higher scores represent greater harshness toward the adolescent. Trained observers rated both parents on the degree to which they showed hostility (angry or rejecting behavior) toward the target, angry coercion

(demanding, stubborn, coercive), and antisocial behavior (self-centered, immature, insensitive). Internal consistency reliability for all scales was acceptable at each time point (mean $\alpha = .68$ for parent self-report, .74 for adolescent report, .88 for observer ratings). The average intraclass correlation between observers for all three scales across timepoints was .67.

Parental monitoring—Parents completed a self-report inventory of monitoring (6 items) at each assessment (Thornberry, 1989). Sample items include “In the course of a day, how often do you know where your 7th grader is?” and “How often do you talk with your 7th grader about what is going on in his/her life?” Item responses ranged from 1 = always to 5 = never. Adolescents also completed a parallel scale of six items rating each parent on parental monitoring. Items were coded so that higher scores represent greater monitoring of the adolescent. Trained observers rated both parents on the degree to which they attempt to develop and oversee roles, routines, and guidelines, possess or pursue information about the adolescent’s life and daily activities, and were involved with the adolescent outside the immediate setting. Examples of high monitoring included “When I asked your coach how you were doing in track, he said you’ve really improved. I can see that too” and “You haven’t spent much time with your friend Beth lately. Are you getting along alright or are you just too busy with your school activities?” Internal consistency reliability for all scales was acceptable at each time point (mean $\alpha = .71$ for parent self-report, .76 for adolescent report, .71 for observer ratings). The average intraclass correlation for all three observed scales across timepoints was .58.

Marital Negativity—Data on marital negativity were collected in 1990 and 1992. Mothers and fathers each completed a seven-item scale assessing the occurrence of specific negative behaviors by the spouse. The introduction of the measure reads “Please think about times during the past month when you and your husband/wife have spent time talking or doing things together. Indicate how often your husband/wife acted in the following ways toward you.” Items include “Ignored you when you tried to talk” and “Criticized you or your ideas.” Item responses ranged from 1 = always to 7 = never, and the scale had acceptable reliability at both time points ($\alpha > .80$). Items were coded so that higher scores represent greater negativity from the spouse. Trained observers watched a videotaped interaction between the husband and wife (task 3 described earlier) and independently rated both on the degree to which they showed hostility (angry or rejecting behavior), angry coercion (demanding, stubborn, coercive), and antisocial behavior (self-centered, immature, insensitive) toward each other. Observed ratings in 1992 and 1994 were on a nine-point scale, but were recoded to seven point scales so as to have possible ranges equal to the parent reports. Internal consistency reliability for all scales was acceptable at each time point (mean $\alpha = .90$ for mother report of father’s behavior, .89 for father report of mother’s behavior, .89 for observer ratings). The average intraclass correlation for all three observed scales across timepoints was .71.

Adolescent deviancy—Adolescents reported on the degree to which they engaged in deviant behaviors like stealing, physical aggression, and property damage using the Elliott delinquency scale, a well-validated, standard measure of delinquency (Elliott, Huizinga, & Ageton, 1985). The introduction read as follows: “The following is a list of behaviors related to laws and rules. We’d like to know whether you’ve done any of these things during the past 12 months.” Responses ranged from 0 = ‘never’ to 5 = ‘six or more times’. A total of 23 questions were completed in 1990 and 1992 and were summed into a scale representing overall deviancy at each time point.

Parent education was created by averaging the total years of education for the mother with the education of the father.

Analyses

Testing study hypotheses—Analyses involved the comparison of four nested models consistent with study hypotheses. To evaluate stability in parenting behavior, the first model predicted type of parenting from the same parenting behavior assessed two years earlier. For example, maternal harshness in 1992 was predicted by maternal harshness in 1990, and maternal harshness in 1994 was predicted by maternal harshness in 1992. Related to hypothesis 1, the second model incorporated the spouse's parenting as a predictor. For example, maternal harshness in 1992 was predicted by maternal and paternal harshness in 1990, whereas maternal harshness in 1994 was predicted by maternal and paternal harshness in 1992. Moving to hypothesis 2, the third model incorporated marital negativity as a predictor. For example, maternal harshness in 1992 was predicted by maternal and paternal harshness in 1990 as well as by marital negativity in 1990. Maternal harshness in 1994 was predicted by maternal harshness in 1992, paternal harshness in 1992, and marital negativity in 1992. Finally, the fourth model tested for the presence of an interaction between spouse parenting and marital negativity (hypothesis 3), using the traditional method of testing for a multiplicative effect, which is generally preferred over median splits (West, Aiken, & Krull, 1996). In order to operationalize the statistical interactions, we multiplied the manifest parcels for spouse's parenting by the manifest parcels for marital negativity at that time point (Jonsson, 1998), resulting in three product parcels defining the interaction factor. Parcels were centered before creating products to remove nonessential multicollinearity. Later parenting was regressed onto that product factor (as well as the two component variables, marital negativity and spouse's parenting) and if the coefficient was significant, it was plotted using the unstandardized regression coefficients (Whisman & McClelland, 2005).

When evaluating the fit of structural models to the data, we used several types of indicators. We used the standard chi-square index of statistical fit that is routinely provided under maximum likelihood estimation of parameters. We also used two indexes of practical fit, the root mean square error of approximation (RMSEA; Browne & Cudeck, 1993) and the Tucker–Lewis index (TLI; Tucker & Lewis, 1973). The RMSEA is an absolute index of fit. RMSEA values under .05 indicate close fit to the data, values between .05 and .08 represent reasonable fit, values between .08 and .10 reflect poor fit, and values greater than .10 are unacceptable. Associated with the RMSEA is a confidence interval (CI) for the RMSEA; if the CI includes .05, the hypothesis of close fit of the model to the data cannot be rejected. For the TLI, fit index values should be greater than .90, and preferably greater than .95, to consider the fit of a model to data to be acceptable.

When comparing the fit of nested models, we relied heavily on the change in the chi-square index of statistical fit. If one model is nested within another model, the difference in chi-square values for the two models (often identified as $\Delta\chi^2$) is distributed as a chi-square variate, with degrees of freedom equal to the difference in degrees of freedom for the two models (or the Δdf). We also evaluated the change in practical indexes of fit between nested models. Finally, when interpreting parameter estimates, we followed the standard in the field and interpreted only parameters that were statistically significant at the .05 level (i.e., only parameters that fell at least 2 SE from zero).

Using measurement parcels in model estimation—Our hypotheses related to the structural model, and prior work suggests that use of multi-item parcels as indicators for latent variables is defensible in such situations (Bandalos & Finney, 2001; Marsh & O'Neill, 1984). Use of parcels in these circumstances addresses rater effects and reduces the number of estimated paths in the model. A domain-representative approach to parcel construction treats information from each reporter as equally valid (or equally biased) and unit-weights the raters by distributing their information across the parcels. Following the procedures outlined by

Kishton and Widaman (1994), domain representative parcels were created, which allowed rater-specific variance and variance common across raters to contribute to the latent factor.

For purposes of illustration, we created the three manifest variables that served as indicators for the latent factor ‘mother harshness in 1990’ in the following way. We began with 18 items assessing mother harshness toward the adolescent in 1990 (six items from the mother, six items from the adolescent, and six observer ratings). We randomly selected two mother items, two adolescent items, and two observer ratings, which we averaged to create our first parcel. From the remaining 12 items, we randomly selected two items from mother, adolescent, and observer, which we averaged to create our second parcel. The remaining six items were then averaged into a third parcel. Each of these parcels, as well as all other parcels, had an aggregate reliability of .65 or higher. Each latent variable had three manifest indicators, and the same indicators were used for the same constructs at each assessment. With the exception of the marital $\times$ mothering interactions, the factor loadings were constrained to be invariant across time, and residuals from parcels composed of identical items were allowed to correlate. As a further test of this procedure, we first ran the models using parcels as just described. We then ran the models separately for each informant. The results from these preliminary analyses supported the results from the parcel model we present here.

Results

Descriptive statistics for each reporter are presented in Table 1. Average scores for the parenting data ranged from a low of 1.59 for adolescent report of father harshness in 1994 to a high of 4.28 for mother self-report of monitoring in 1990. Standard deviations ranged from 0.35 for father self-report of harshness in 1990 to 0.91 for observer rating of mother harshness in 1994. Adolescent reports of harshness suggested mild positive skew for mothers (1.10) and fathers (1.23). The correlations between raters of the same construct (i.e., mothers, fathers, adolescents, observers) ranged from a low of $r = .19$ ($p < .001$) to a high of $r = .38$ ($p < .001$), with an average correlation between raters of $r = .29$. With regard to mothering, mother self-reports and adolescent reports were more highly correlated across parenting dimensions (mean $r = .35$) than either mother and observer-reports (mean $r = .27$) or adolescent and observer reports (mean $r = .25$). For fathering, father self-reports and adolescent reports were no more correlated (mean $r = .27$) than either father- and observer-reports (mean $r = .26$) or adolescent and observer reports (mean $r = .25$).

We used Mplus Version 4 (Muthén & Muthén, 2006) to estimate each model using full information maximum likelihood. The factor loadings and standard errors from the measurement model were constrained to be equal across assessments, and are presented in Table 2. Standardized loadings of manifest indicators onto latent factors ranged from .71 to .98. For example, the standardized loadings from parcels onto the latent variable “mother warmth” were .86 for parcel 1, .85 for parcel 2, and .77 for parcel 3.

Correlations among latent variables are presented in Table 3. Parenting behaviors were positively correlated with later spouses’ parenting for warmth, harshness, and monitoring. For example, father warmth in 1990 was correlated .47 with mother warmth in 1992. Marital negativity was associated with lower levels of warmth and monitoring, and higher levels of harshness. The patterns of associations were consistent with study hypotheses, and justified formal testing of our hypotheses.

Two common methods for the prediction of change in parenting over time involve either the prediction of slopes of growth curves in parenting or the prediction of rank order change using an autoregressive model. To predict change in terms of the slope in parenting, there must be significant sample variance (inter-individual differences) in the rate of change in parenting

(Singer & Willett, 2003). Initial analyses with these parenting data demonstrated that, in most cases, the slope was best modeled as a fixed effect (i.e., the variance of the slope was nonsignificant). For this reason, we evaluated the prediction of rank-order change in parenting using autoregressive models.

The baseline model for each parenting dimension, Model 1a (Table 4), was a 10-factor model containing ten latent variables (i.e., mothering at 1990, mothering at 1992, and 1994, fathering at 1990, fathering at 1992, and 1994, marital negativity at 1990 and 1992, and the statistical interaction between marital negativity and mother parenting at both 1990 and 1992). For each dimension of parenting, this model allowed only correlations within time points, not between time points. The fit of this model was rejectable on statistical grounds, as shown in Table 4, χ^2 (382, $N = 444$) = 1588.50 for warmth, 1578.40 (381, $N = 444$) for harshness, and 1487.40 (381, $N = 444$) for monitoring, $p < .001$ for all three parenting dimensions. The practical fit indices were also unacceptable, with RMSEA values ranging from .081 to .084 (CI did not include .05), and TLI values ranging from .859 to .879 (all below .90).

As noted earlier, the next step in the analyses was to determine whether adding paths for stability in parenting would improve model fit compared to the baseline model. As we include three time points in our models, we constrained paths from 1990 to 1992 to be equal to paths from 1992 to 1994. Model 1b (Table 4) for parent monitoring contains the only point in the current analyses where this across time constraint was rejectable, $\Delta\chi^2$ ($\Delta df = 2$) = 7.41, $p = .025$, so for monitoring Model 1b allows the 1990 to 1992 stability paths in both mother and father monitoring to vary from the parallel 1992 to 1994 paths. Across all three parenting dimensions, Model 1b fit significantly better than Model 1a, with $\Delta\chi^2$ values ranging from 694.48 to 895.55, $p < .001$, and practical fit indices all in the reasonable or acceptable range (RMSEA values ranging from .044 to .050, and TLI values ranging from .950 to .963). Consistent with expectations, then, parents demonstrate significant stability in all three dimensions of parenting behavior.

Test of Hypothesis 1: Reciprocity in Parenting

Our first hypothesis was that parenting behavior by each parent would significantly predict later parenting behavior by the spouse, after controlling for prior level of spouse's parenting. Thus, Model 1c (Table 4) allowed paths from mother parenting in 1990 and 1992 to father parenting in 1992 and 1994, respectively, as well as complementary paths from father parenting to mother parenting. Model 1c resulted in a significant improvement in fit for harshness, $\Delta\chi^2$ ($\Delta df = 2$) = 43.12, $p < .001$, and monitoring, $\Delta\chi^2$ ($\Delta df = 2$) = 8.74, $p = .013$, and trended in that direction for warmth, $\Delta\chi^2$ ($\Delta df = 2$) = 5.23, $p = .073$. While these results are consistent with the hypothesis of reciprocal associations between parents with regard to harshness and monitoring, the support for warmth is weaker but marginally significant. Model 1d equated the mothering to fathering cross lags with the fathering to mothering cross lags, which resulted in a nonsignificant drop in fit for warmth, $\Delta\chi^2$ ($\Delta df = 1$) = 0.36, $p = .548$, and harshness, $\Delta\chi^2$ ($\Delta df = 1$) = 1.04, $p = .308$, but a significant drop in fit for monitoring, $\Delta\chi^2$ ($\Delta df = 1$) = 4.01, $p = .045$. While reciprocal associations between spouses are similar in magnitude for warmth and harshness, they differed significantly for monitoring, so this constraint across parents was not retained for later model tests of parent monitoring. Interestingly, the model for parental warmth which constrained cross-lags to equality across parents (Model 1d) demonstrated a significantly better fit than the model with no cross-lags (Model 1b), $\Delta\chi^2$ ($\Delta df = 1$) = 4.87, $p = .027$. This finding suggests that the trend toward significance noted earlier for warmth likely represents the hypothesized reciprocity between parents.

Test of Hypothesis 2: Marital Negativity

Our second hypothesis was that marital negativity would be associated with later parenting. Model 1e (Table 4) tested this hypothesis by allowing paths from marital negativity in 1990 and 1992 to parenting in 1992 and 1994, respectively. For each of the three parenting dimensions, Model 1e significantly improved model fit. Model 1f tested whether or not associations between marital negativity and parenting are equal across spouses. In each case, equating the paths significantly worsened model fit, suggesting that associations between marital negativity and parenting are not equal in magnitude across mothers and fathers. Thus, these paths were left unconstrained in subsequent analyses.

Test of Hypothesis 3: Moderating Effects

We then tested for the presence of a statistical interaction between spouse's parenting and marital negativity, which would address our hypothesis of moderation by marital negativity. We tested for interactions between marital negativity and spouse's parenting for both mothers and fathers, but found no significant interactions between fathering and marital negativity in predicting mothering. Consequently, we report only results for the mothering $\times$ marital negativity interactions. Model 1g (Table 4) predicted father parenting in 1992 and 1994 from the interaction between mother parenting and marital negativity ($M \times MN$) in 1990 and 1992, respectively. Model 1g resulted in a significant improvement in fit for harshness, $\Delta\chi^2$ ($\Delta df = 1$) = 15.86, $p < .001$ and monitoring, $\Delta\chi^2$ ($\Delta df = 1$) = 14.52, $p < .001$, but not for warmth, $\Delta\chi^2$ ($\Delta df = 1$) = 2.22, $p = .136$. Consequently, the moderation paths for warmth were dropped.

Control variables

For the final step in the analyses, we added the control variables for parent education and adolescent deviant behaviors¹. Model 1h (Table 4) incorporated adolescent deviancy assessed in 1990 and 1992 as control variables. Adolescent deviancy in 1990 and 1992 was used to predict parenting in 1992 and 1994, respectively. Model 1h also incorporated parent education (assessed in 1989) as a predictor of parenting across time points. Model 1h was not nested within previous models because control variables were added to the model, so chi-square comparisons were not made. However, practical fit indices remained in the acceptable range (TLI values ranged from .953 to .967; RMSEA ranged from .038 to .045), and modification indices suggested the inclusion of only two additional paths. First, with these controls in the analyses, parent harshness in 1990 predicted a relative increase in marital negativity in 1992. Second, upon adding adolescent deviancy as a control, significant paths emerged from parenting in 1990 to deviancy in 1992. Therefore, our final model for warmth, harshness, and monitoring (Model 1h) includes both adolescent deviancy and parent education as controls, as well as paths from parenting to later adolescent deviancy. In addition, for harshness, Model 1h includes paths from parent harshness in 1990 to marital negativity in 1994. Model-based estimates of parenting also showed that spouses' parenting was significantly correlated within timepoints: 1990 ($r = .60$ for warmth, $.62$ for harshness, $.39$ for monitoring); 1992 ($r = .23$ for warmth, $.31$ for harshness, and $.16$ for monitoring) and 1994 ($r = .31$ for warmth, $.47$ for harshness, and $.51$ for monitoring).

¹We considered the possibility that parents who were more experienced with being parents of adolescents may have already negotiated childrearing strategies they considered adaptive. Therefore, we used the age of the oldest child in the family (ages ranged from 12 to 23), as well as the birth order of the study child (40% were first-born), as additional, potential moderators of the reciprocal associations between parents' behavior. Neither variable showed significant moderating effects. We also considered the sex of the adolescent as a possible moderator of these findings by replicating these same models in a multiple-group framework, but no structural paths were significantly different between male and female target adolescents.

Effect Sizes and Final Models

Figures 1–3 contain the standardized coefficients from Model 1h for each parenting behavior². With regard to hypothesis 1, after controlling for prior parenting, parent warmth predicts relative increases in later spouse warmth ($\beta = .04$, $SE = .02$, Figure 1), parent harshness predicts relative increases in later spouse harshness ($\beta = .08$, $SE = .03$, Figure 2), and parent monitoring predicts relative changes in later spouse monitoring (for father predicting mother, $\beta = .07$, $SE = .04$; for mother predicting father, $\beta = -.09$, $SE = .04$, Figure 3). With regard to hypothesis 2, after controlling for prior parenting, higher marital negativity is associated with lower levels of later warmth for fathers ($\beta = -.15$, $SE = .03$), greater harshness for mothers ($\beta = .09$, $SE = .03$), and lower monitoring for mothers ($\beta = -.09$, $SE = .04$) and fathers ($\beta = -.19$, $SE = .03$). With regard to hypothesis 3, we found that marital negativity significantly moderated the effect of mothering for father harshness ($\beta = -.09$, $SE = .04$; see Figure 4) and father monitoring ($\beta = .13$, $SE = .03$; see Figure 5). To interpret the significant moderation, we graphed the regression equations for both parenting dimensions using unstandardized coefficients, at three levels of marital negativity (i.e., $-1SD$, the mean, $+1SD$). In both cases, the degree to which prior mothering predicted fathering was stronger in marriages characterized by low negativity. Tests of simple slopes (Preacher, Curran, & Bauer, 2006) showed that the association between mother parenting and later father parenting was significant at one standard deviation below the mean on marital negativity ($p = .003$ for harshness, $p = .0001$ for monitoring) as well as at the mean on marital negativity ($p = .005$ for harshness, $p = .011$ for monitoring), but was nonsignificant at one standard deviation above the mean ($p = .39$ for harshness, $p = .30$ for monitoring).

Finally, with regard to control variables, we found that parent education predicted relative increases in warmth ($\beta = .10$, $SE = .04$) and monitoring ($\beta = .15$, $SE = .04$) for fathers and relative decreases in harshness ($\beta = -.09$, $SE = .04$) for mothers. We also found that adolescent deviancy predicted relative increases in harshness for both parents ($\beta = .17$, $SE = .04$ for mothers; $\beta = .09$, $SE = .04$ for fathers) and relative decreases in monitoring ($\beta = -.09$, $SE = .03$) for mothers. Finally, mother warmth ($\beta = -.12$, $SE = .06$) and monitoring ($\beta = -.14$, $SE = .04$) both predicted relatively lower levels of adolescent delinquency. Especially important, the addition of the control variables did not reduce associations among parenting and marital negativity. That is, they did not explain away the substantive findings we had predicted.

Discussion

Parenting is very closely tied to child development (Maccoby, 2002), and a sizable literature suggests that one's parenting behavior may be associated with the behavior of one's spouse. Although prior work has considered associations between the marital relationship and parenting behavior, less attention has been given to direct associations between spouses' parenting behavior. Consequently, the current study addressed the degree to which parenting can be predicted over time both by the parenting of one's spouse as well as by the amount of negativity in the marital relationship. We also investigated the degree to which any association between mothering and fathering over time was moderated by the negativity in the marital relationship.

Hypothesis 1: Does Prior Parenting by Spouse Predict Relative Changes in Parenting?

Overall, our first hypothesis was supported; parents predict each other's parenting over time. Parental warmth positively predicted later spouse's warmth for both mothers and fathers, parental harshness positively predicted later spouse's harshness for mothers and fathers, and father's monitoring positively predicted later mother's monitoring. These findings are

²We applied a forward selection approach in the current analyses, starting with no paths and building up. Starting with a final model and then systematically removing them (a 'backward' selection approach) led to the same conclusions for all three parenting dimensions.

consistent with other work showing that individuals emulate the behaviors of others (Bandura, 1977), especially those who are perceived as powerful, rewarding, and similar (Festinger, 1954). These reciprocal associations could also be explained by assortative mating, with spouses with similar propensities responding similarly to environmental changes not captured by our control variables. Alternatively, it may be that, as spouses collaborate and deliberately seek to reinforce each other's parenting, they become more similar over time. Finally, it is noteworthy that these reciprocal associations were significant after controlling for the quality of the marital relationship, parent education, adolescent deviancy, and prior levels of spouse parenting.

An unexpected finding was that mother's monitoring negatively predicted later father monitoring. Although the zero-order correlation between mother and father monitoring was positive, after controlling for prior level of father monitoring, the path from prior mother monitoring to later father monitoring was negative. This might occur because the responsibility for childrearing tasks like monitoring may not be equally divided between parents (Sabatini & Leaper, 2004), but is instead often concentrated on the mother. That is, parents may divide parenting tasks with regard to child management, with most monitoring of adolescents being done by the mother. For example, the average monitoring score for mothers in Table 1 is higher than for fathers according to all of the informants in this study. The negative association between mother monitoring and later father monitoring also suggests that in families where mothers monitor less, fathers monitor more; a possible compensatory effect (Belsky & Volling, 1987). Given the positive associations for both warmth and harshness, it may be that in more harmonious marriages, a parent becomes more similar to their spouse with regard to expression of affect, but may, based on the needs of the family, specialize in instrumental care/management tasks, like monitoring. Perhaps father increases his monitoring in families where the adolescent resists the monitoring efforts of the mother. Further work is needed on both affect-based and management-based parenting behaviors to discern whether associations between parents are best characterized as reinforcing (positive prediction) or complementary (negative prediction), as well as possible explanations for this complexity of associations.

Hypothesis 2: Does Marital Negativity Predict Parenting Behavior?

Marital negativity generally predicted poorer parenting. Specifically, marital negativity predicted lower warmth by fathers, greater harshness by mothers, and lower monitoring by both fathers and mothers. This result is consistent with prior work on the relation between the marital system and the parent-child system (Erel & Burman, 1995) and supports the systems theory concept of interdependence, or the tendency of one family subsystem to influence other subsystems (Minuchin, 1974). Effects of marital negativity also varied across spouses. Links between marital negativity and parenting were larger for fathers in two out of three models (warmth and monitoring), perhaps because the cultural role of fatherhood is less clearly defined, causing fathers to be more malleable in their parenting (Belsky, Gilstrap, & Rovine, 1984). Environmental characteristics in general may have a larger influence on father-child behaviors than mother-child behaviors, possibly because fathering is seen as more discretionary than mothering (Cabrera et al., 2000). Marital negativity was directly associated with mothers' harshness, but served only as a moderator of the effect of mother's harshness on fathers. Although some prior work has also shown that links between the marital system and childrearing practices differ between mothers and fathers (Baum, 2003), a meta-analysis of literature on marital conflict and parenting (Erel & Burman) found no support for moderation by gender of parent. Further work is needed in this area before strong conclusions can be drawn regarding the generalizability of this observed difference between spouses.

Hypothesis 3: Does Marital Negativity Moderate Associations between Spouses' Parenting Behaviors?

Marital negativity moderated the degree to which later parenting was associated with earlier parenting by the spouse in two out of six cases. In both significant cases, the association between mother and father parenting was weakest in families characterized by high levels of marital negativity. This suggests that more healthy marriages are associated with greater interdependence between spouses in terms of parenting, which is consistent with the social learning view that we emulate reinforcing others. Specifically, we socially reference people we see as similar to us and people close to us (Chartrand, Maddux, & Lakin, 2005). Marital negativity may lead parents to attend and encode less of the parenting of their spouse, or it may simply keep spouses from viewing each other as effective models. The coparenting literature suggests that negative emotions due to marital negativity may lead parents to be defensive and resistant to implicit or explicit parenting advice offered by their spouse. However, the moderation effect was found in only two of our six cases, highlighting the need for further research in this area. A final point of interest is that this moderation appeared only for fathers. This may be attributable to the same mechanisms contributing to differences between fathers and mothers in links between marital negativity and parenting. In both cases, marital negativity predicts relative changes in fathering more than it predicts changes in mothering.

In addition to our three hypotheses, several other interesting findings emerged from these analyses. First, mother warmth and monitoring predicted relatively lower levels of adolescent delinquency. This is consistent with prior literature (Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2006) suggesting that certain parenting styles predict lower rates of adolescent delinquency. In addition, mother and father harshness toward the adolescent were significant predictors of later marital negativity. This is consistent with theoretical work on coparenting conflict (Bonds & Gondoli, 2007), which suggests that conflicts over parenting can impact the marital relationship. It can also be viewed as support for the broader family systems framework suggesting interdependence of the parent-child and parent-parent subsystems. Another interesting set of findings involves the continuing effect of parent education on parenting behaviors. Parent education predicted relative increases in warmth and monitoring for fathers and relative decreases in harshness for mothers. This could be evidence for a continuing effect of parent education over time or could indicate that some characteristic correlated with parent education continues to explain additional variance in parenting over time. A final interesting set of findings pertains to reciprocity between parents and adolescents. Adolescent deviancy predicted relative increases in harshness for both parents and relative decreases in monitoring for mothers. This is consistent with prior literature (Larsson, Viding, Rijdsdijk, & Plomin, 2008) demonstrating the reciprocal nature of the parent-child relationship. Mothers in this sample appear to have responded to adolescent deviancy with an arguably maladaptive combination of greater harshness and less monitoring.

Study Limitations and Final Conclusions

This study has several limitations that should be noted. One limitation is the ethnic homogeneity of the sample. Although socioeconomically diverse, most of the participants were European American. Replication across other ethnic groups will increase our confidence in the generalizability of the findings. However, other findings from this sample on associations among economic stress, interparental conflict, parenting, and child adjustment have been replicated across a number of ethnic groups (Conger & Donnellan, 2007), increasing confidence in the potential generalizability of these results. Another limitation of the current study is our focus on a relatively limited period of time. Although the time period covered by our data (adolescence) is a useful time to study, it would also be informative to look at families earlier, during childhood or preadolescence. An important qualification of these findings is that, because parenting may be especially malleable during adolescence, reciprocal

associations may be evident during this period that may not appear during other time frames. Also important, these data were collected more than 10 years ago, and, although the nature of general family dynamics are unlikely to change within that period of time, the possibility of cohort effects is a possible limitation. In addition, the effect sizes related to these associations ranged from small to moderate in size (Cohen, 1988). However, even small effects could result in meaningful differences in parenting behaviors, especially when persisting over time. Finally, we have hypothesized a causal pathway from earlier to later parenting of the spouse. Because this study used a nonexperimental design, we cannot infer causality of the sort afforded by manipulative designs.

In terms of practical implications, these data suggest that intervention or prevention programs focused on parenting should target both mothers and fathers in two-parent families. Prior studies have noted that some participants will mention after an intervention that they did not benefit as much as they could have from the intervention, due to the behavior of their spouse (Pruett, Insabella, & Gustafson, 2005, p.45). The current study offers initial support for the possibility of a converse effect; namely, in many families with stronger marriages improving the practices of one parent may lead to a positive carryover effect for their spouse. From a prevention/intervention standpoint, it is encouraging to see associations between spouses' parenting increase while children are in middle to late adolescence. Such malleability suggests that parents can change their parenting as late as adolescence, and interventions targeting parents of adolescents need not suppose parents become unresponsive, static figures.

These findings also suggest that interventions targeting parenting practices may see greater success by directly addressing the quality of the marital relationship in addition to parenting behaviors. Future research should examine the degree to which the emotional closeness of the spouse explains the moderating effect of marital negativity on similarity in parenting. Future research should also incorporate a broader range of information about the child, to explore how these issues relate to child outcomes more generally. Additionally, future research might attempt to replicate these mutual associations in parenting over short-term parent-child interactions, applying prior theoretical work on reciprocal influences in within-family triads (Parke, Power, & Gottman, 1979). In any case, the present findings offer clear support for the conclusion that mothers and fathers may influence one another's parenting not only through the quality of their relationship with each other, but also directly in terms of their specific childrearing practices.

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Figure 1.
Standardized Coefficients From Model 1h for Parental Warmth.

Figure 2.
Standardized Coefficients From Model 1h for Parental Harshness.

Figure 3.
Standardized Coefficients From Model 1h for Parental Monitoring.

Figure 4.
Moderation by marital negativity for mother harshness predicting father harshness.

Figure 5.
Moderation by marital negativity for mother monitoring predicting father monitoring.

Table 1

Means and Standard Deviations for All Variables, by Timepoint

Variable	1990			1992			1994		
	M	SD	Min	Max	M	SD	Min	Max	Max
F: monitoring	4.05	0.38	2.67	5.00	4.01	0.43	2.17	5.00	5.00
F: harshness	1.81	0.35	1.00	3.14	1.74	0.35	1.00	3.29	3.75
F: warmth	3.67	0.47	2.00	5.00	3.72	0.49	1.86	5.00	5.00
M: monitoring	4.28	0.36	3.00	5.00	4.20	0.38	3.00	5.00	5.00
M: harshness	1.85	0.36	1.00	3.14	1.77	0.36	1.00	2.86	3.50
M: warmth	3.93	0.46	2.14	5.00	3.93	0.47	2.71	5.00	5.00
A: mom monitoring	3.83	0.56	1.67	5.00	3.84	0.60	1.67	5.00	5.00
A: mom harshness	1.82	0.45	1.00	4.29	1.83	0.45	1.00	3.43	4.40
A: mom warmth	3.51	0.77	1.14	5.00	3.51	0.75	1.00	5.00	5.00
A: dad monitoring	3.54	0.72	1.00	5.00	3.46	0.75	1.17	5.00	5.00
A: dad harshness	1.74	0.50	1.00	4.00	1.76	0.46	1.00	4.43	4.20
A: dad warmth	3.44	0.80	1.00	5.00	3.42	0.78	1.00	5.00	5.00
O: dad monitoring	3.59	0.72	1.67	5.00	3.20	0.62	1.67	5.00	4.83
O: dad harshness	2.06	0.80	1.00	5.00	2.24	0.89	1.00	5.00	4.83
O: dad warmth	2.98	0.74	1.00	5.00	2.72	0.77	1.00	5.00	5.00
O: mom monitoring	3.71	0.68	1.67	5.00	3.41	0.57	2.00	5.00	5.00
O: mom harshness	2.04	0.78	1.00	5.00	2.36	0.87	1.00	5.00	5.00
O: mom warmth	3.23	0.74	1.33	5.00	3.06	0.79	1.17	5.00	5.00
F: marital negativity	1.99	0.70	1.00	5.22	1.94	0.67	1.00	5.89	-
M: marital negativity	1.87	0.70	1.00	6.11	1.92	0.81	1.00	6.78	-
O: marital negativity	2.16	0.93	1.00	5.75	2.51	1.14	1.00	7.00	-
A: deviancy	1.33	2.80	0.00	35.00	2.63	4.26	0.00	28.00	-

Note. F = father report; M = mother report; A = adolescent report; O = observer rating. Average sample size at 1990: F = 382, M = 399, A = 424, at 1992: F = 382, M = 399, A = 403, at 1994: F = 373, M = 401, A = 396.

Table 2

Measurement Model: Unstandardized and Standardized Coefficients, and Standard Errors

Construct	Parcel	Warmth			Harshness			Monitoring		
		λ	SE	Std. λ	λ	SE	Std. λ	λ	SE	Std. λ
Mothering	1	.48	.02	.86	.40	.02	.83	.41	.02	.82
	2	.43	.02	.85	.27	.02	.80	.44	.02	.96
	3	.46	.02	.77	.37	.02	.82	.36	.02	.82
Fathering	1	.47	.02	.82	.39	.02	.82	.46	.02	.82
	2	.43	.02	.86	.29	.02	.79	.50	.02	.96
	3	.49	.02	.82	.38	.02	.79	.39	.02	.82
Marital negativity	1	.92	.04	.92	.92	.04	.92	.92	.04	.92
	2	1.03	.04	.96	1.03	.04	.95	1.03	.04	.96
	3	1.07	.04	.87	1.07	.04	.95	1.07	.04	.95
Mothering $\times$ marital negativity	1	.46	.02	.81	.38	.02	.73	.74	.03	.90
	2	.51	.02	.82	.30	.02	.75	.83	.03	.98
	3	.63	.03	.78	.43	.02	.81	.77	.03	.94
Fathering $\times$ Marital negativity	1	.55	.03	.87	.45	.02	.80	.70	.03	.90
	2	.59	.04	.91	.36	.02	.79	.87	.04	.98
	3	.55	.04	.84	.38	.03	.71	.70	.03	.90

Table 3

Correlations Between Latent Variables Used in Analyses

	1	2	3	4	5	6	7	8	9	10	11
1. Dad warmth at 1990	-										
2. Mom warmth at 1990	.63	-									
3. Dad warmth at 1992	.62	.43	-								
4. Mom warmth at 1992	.47	.68	.45	-							
5. Dad warmth at 1994	.47	.33	.62	.35	-						
6. Mom warmth at 1994	.43	.63	.40	.72	.46	-					
7. Marital negativity at 1990	-.30	-.25	-.34	-.21	-.32	-.22	-				
8. Marital negativity at 1992	-.22	-.18	-.33	-.25	-.35	-.23	.72	-			
9. Parent education	.33	.27	.30	.23	.28	.21	-.03	-.03	-		
10. Deviancy at 1990	-.14	-.13	-.10	-.06	-.07	-.06	.07	.05	-.14	-	
11. Deviancy at 1992	-.10	-.16	-.08	-.09	-.03	-.08	.05	.04	-.09	.58	-
1. Dad harshness at 1990	-										
2. Mom harshness at 1990	.66	.45	-								
3. Dad harshness at 1992	.62	.65	.52	-							
4. Mom harshness at 1992	.49	.38	.57	.35	-						
5. Dad harshness at 1994	.38	.30	.37	.58	.55	-					
6. Mom harshness at 1994	.35	.41	.09	.19	.06	.17	-				
7. Marital negativity at 1990	.17	.16	.06	.09	.15	.04	.72	-			
8. Marital negativity at 1992	.24	.23	-.20	.27	-.25	.03	-.01	-.05	-		
9. Parent education	-.28	-.30	.03	-.02	.04	-.03	.07	.07	-.14	-	
10. Deviancy at 1990	.16	.20	.02	-.01	.05	.05	.04	.04	-.08	.58	-
11. Deviancy at 1992	.09	.11									
1. Dad monitoring at 1990	-										
2. Mom monitoring at 1990	.43	.22	-								
3. Dad monitoring at 1992	.54	.49	.29	-							
4. Mom monitoring at 1992	.28	.21	.65	.21	-						
5. Dad monitoring at 1994	.49	.42	.30	.59	.52	-					
6. Mom monitoring at 1994	.27	-.27	-.32	-.22	-.35	-.23	-				
7. Marital negativity at 1990	-.26	-.20	-.37	-.30	-.42	-.28	.73	-			
8. Marital negativity at 1992	-.19	.20	.27	.18	.32	.21	-.05	-.04	-		
9. Parent education	.20	-.21	-.11	-.18	-.10	-.18	.07	.05	-.12	-	
10. Deviancy at 1990	-.11	-.25	-.09	-.17	-.11	-.22	.08	.05	-.08	.58	-
11. Deviancy at 1992	-.12										

Note. Correlations greater than |.11| are significant at $\alpha = .05$.

Table 4

Fit of Structural Models to Data on Parental Warmth, Harshness, and Monitoring

Model	Parental Warmth							Parental Harshness							Parental Monitoring									
	χ^2	df	RMSEA	CI	TLI	$\Delta\chi^2$	Δdf	p	χ^2	df	RMSEA	CI	TLI	$\Delta\chi^2$	Δdf	p	χ^2	df	RMSEA	CI	TLI	$\Delta\chi^2$	Δdf	p
1a. Factors correlated within timepoints	1588.45	382	.084	.080–.089	.860	-	-	-	1578.40	381	.084	.080–.088	.859	-	-	-	1487.4	381	.081	.077–.085	.879	-	-	-
1b. Model 1a, plus stability paths ^A	692.90	376	.044	.038–.049	.963	895.55	6	< .001	795.21	375	.050	.045–.055	.950	783.19	6	< .001	792.92	373	.050	.045–.055	.953	694.48	8	< .001
1c. Model 1b, plus cross-lag paths	687.67	374	.043	.038–.048	.963	5.23	2	.073	752.09	373	.048	.043–.053	.955	43.12	2	< .001	784.18	371	.050	.045–.055	.954	8.74	2	.013
1d. Model 1c, between spouses equating cross-lags	688.03	375	.043	.038–.048	.963	0.36	1	.548	753.13	374	.048	.043–.053	.955	1.04	1	.308	788.19	372	.050	.045–.055	.954	4.01	1	.045
1e. Model 1d, plus paths from marital negativity to parenting ^B	652.24	373	.042	.036–.047	.966	35.79	2	< .001	743.45	372	.047	.042–.052	.955	9.68	2	.008	747.39	369	.048	.043–.053	.957	36.79	2	< .001
1f. Model 1e, equating marital to parenting paths	675.88	374	.042	.037–.048	.965	23.64	1	< .001	752.51	373	.048	.043–.053	.955	9.06	1	.003	764	370	.049	.044–.054	.956	16.61	1	< .001
1g. Model 1e, plus paths from M × MN to fathering	654.46	373	.042	.037–.047	.966	2.22	1	.136	736.65	372	.047	.042–.052	.956	15.86	1	< .001	732.87	368	.047	.042–.052	.959	14.52	1	< .001
1h. Model 1g, plus education and deviancy as controls	715.28	437	.038	.033–.043	.967	-	-	-	824.57	436	.045	.040–.049	.953	-	-	-	826.82	434	.045	.040–.050	.955	-	-	-

Note. Because Model 1h is not nested, chi-square comparisons to prior models are omitted;

^A = Because stability paths for parent monitoring could not be equated across the two timepoints, Model 1b required two additional degrees of freedom;

^B = As Model 1d significantly worsens fit for parent monitoring, Model 1e for parent monitoring builds on 1c, not 1d.