



Published in final edited form as:

J Fam Psychol. 2008 February ; 22(1): 41–50.

Marital Satisfaction Across the Transition to Parenthood

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Abstract

The purpose of the present study was to discriminate between the 2 dominant perspectives governing research on the nature of marital change over the transition to parenthood. Progress can be made in understanding this transition by recognizing the role of uncontrolled sources of variability in research designs, defining and using control groups, and timing of data collection around the child's arrival, and the authors conducted a study incorporating these methodological refinements. Growth curve analyses were conducted on marital satisfaction data collected twice before and twice after the birth of the 1st child and at corresponding points for voluntarily childless couples ($N = 156$ couples). Spouses who were more satisfied prior to pregnancy had children relatively early in marriage, and parents experienced greater declines in marital satisfaction compared to nonparents. Couples with planned pregnancies had higher prepregnancy satisfaction scores, and planning slowed husbands' (but not wives') postpartum declines. In sum, parenthood hastens marital decline—even among relatively satisfied couples who select themselves into this transition—but planning status and prepregnancy marital satisfaction generally protect marriages from these declines.

Keywords

marriage; growth curve analyses; transition to parenthood; couples; pregnancy

Two broad perspectives can be identified within the large literature relating the transition to parenthood to changes in marriage (for reviews, see Belsky & Pensky, 1988; P. A. Cowan & Cowan, 1988). In the first, the transition to parenthood is viewed as instigating a shift in the marriage whereby most couples are expected to experience a qualitative change in their relationship that is relatively abrupt, adverse in nature, relatively large in magnitude, and likely to persist (e.g., Moss, Bolland, Foxman, & Owen, 1986; Pancer, Pratt, Hunsberger, & Gallant, 2000). Perhaps because having a child is assumed to have an encompassing effect on marital functioning, empirical studies adopting this perspective historically have not relied on control

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groups or strict eligibility requirements for the samples under investigation. Similarly, practitioners adopting this perspective have emphasized the need to intervene with couples therapeutically to help them navigate this critical transition (e.g., Pacey, 2004).

In the second perspective, the transition to parenthood is understood as a significant but transient stage in the development of marriages and families (e.g., P. A. Cowan & Cowan, 2003). The baby's arrival may produce temporary changes in the quality of the marital relationship—to varying degrees among different couples—as determined by their capacity to adapt to these new challenges (e.g., Belsky & Rovine, 1990; Cast, 2004). Quantitative rather than qualitative changes in the marital relationship are expected, and these changes are presumed to be short-lived and relatively small in magnitude (P. A. Cowan & Cowan, 1988; Cox, Paley, Burchinal, & Payne, 1999). When researchers investigate the transition to parenthood within this second perspective, greater emphasis is placed on the nature of control groups (e.g., childless couples) needed to document the effects of the baby's birth on the marriage, on the need for relatively homogeneous samples of couples, and on moderating variables that help to isolate the effects of this transition (e.g., Belsky & Rovine, 1990; P.A. Cowan & Cowan, 1988; Cox et al., 1999). Interventions derived from this perspective are likely to emphasize education and prevention as a means of helping couples anticipate the changes that might occur in their marriages as a result of becoming parents (Schulz, Cowan, & Cowan, 2006).

These two perspectives represent different assumptions about the basic nature of marital change over the transition to parenthood, which may shape decisions about sampling, research design, and intervention. Despite the importance of clarifying which of these two perspectives provides a more valid portrait of marriage over the transition to parenthood for couples and for mental health professionals, the available research does not permit clear discrimination between them. We argue that progress can be made in understanding the transition to parenthood by recognizing the roles of uncontrolled sources of variability in research designs, defining and using control groups, and timing of data collection around the child's arrival, and we present a study designed to incorporate these methodological refinements.

Continued analysis of the transition to parenthood is warranted because millions of couples undergo the transition to parenthood each year (U.S. Census Bureau, 2002) and because changes in the marital system are likely to affect child well-being (Gable, Belsky, & Crnic, 1992) and parent-child relationships (Owen & Cox, 1997). With the benefit of hindsight, we can see that early pioneering studies of the transition to parenthood left several sources of variability uncontrolled. For example, a number of studies combined couples expecting their first child with those experiencing the birth of a second or third child (e.g., MacDermid, Huston, & McHale, 1990). This approach restricts the ability to pinpoint changes in marital satisfaction associated specifically with the transition to parenthood, in that these changes may be confounded with changes related to the addition of a later child to the family. Second, several studies have included remarried couples in their samples (e.g., Cox et al., 1999). Because remarriages are known to be less stable than first marriages (Booth & Edwards, 1992) and may include children from the first marriage, their inclusion in transition to parenthood studies may yield stronger effects than those obtained with first marriages.

Third, in many studies, researchers have not controlled for marital duration when selecting their samples. As a result, it is not uncommon in these studies for couples to be married for widely varying lengths of time (e.g., less than 1 year to 8 or 9 years [Goldberg, Michaels, & Lamb, 1985], 5 months to 12.3 years [Wright, Henggeler, & Craig, 1986], 1 year to 15 years [Terry, 1991], and 6 months to 17 years [Cox et al., 1999]). This variation, and the fluctuations in marital satisfaction that accompany it, may hinder efforts to identify differential effects of

the transition to parenthood on the relationships of couples who experience the transition relatively early in their marriages versus those who do so later on.

Finally, as Belsky, Spanier, and Rovine (1983) noted,

in many investigations, the age of the focal child has varied at the time of assessment, despite the fact that on both conceptual (Rossi, 1968) and empirical grounds (Dyer, 1963; Hobbs, 1965), there is reason to believe that a child's developmental status... affects the appraisal of how the child's presence influences marital relations and family life. (p. 568)

Because children of different ages exert different demands on their parents' time and energy, this type of design makes it difficult to identify changes in the marital relationship occurring at specific points within the transition period.

Our contention here is not that these factors—the arrival of second- and later-born children, the transition to parenthood in remarriages, the arrival of the first child in marriages of different durations, or the age of the child—are unimportant. To the contrary, these factors seem likely to moderate the effects of having a child on marital functioning and hence require analysis before a reasonably complete understanding of the transition to parenthood is achieved. However, faced with the choice of examining each of these factors systematically or designing a study in which these factors cannot operate, we have adopted the latter strategy.

Even with controls instituted for many of the aforementioned variables, conclusions about the effects of the transition to parenthood on marriage will hinge on the presence and nature of the comparison groups employed. It is surprising that relatively few studies of the transition to parenthood have included childless comparison groups. As White and Booth (1985) noted, in the absence of a childless comparison group, changes in marriage that normally occur with the passage of time could be attributed mistakenly to the transition to parenthood.

Even among transition to parenthood studies that have included childless comparison groups, many have failed to distinguish between couples who are voluntarily and involuntarily childless (e.g., Shapiro, Gottman, & Carrere, 2000). As Belsky and Pensky (1988) noted, involuntarily childless couples (i.e., those experiencing infertility) may be functionally quite different compared to voluntarily childless couples. Studies have suggested that involuntarily childless couples may also differ systematically from parent couples in ways that might be related to marital satisfaction. For example, in a study of 60 mothers, 36 voluntarily childless wives, and 53 infertile women, Callan (1987) found that infertile women reported more loving marital relationships and higher marital satisfaction than did mothers and voluntarily childless wives. Similarly, VanKeep and Schmidt-Elmendorff (1975) found that infertile couples had greater consensus on a variety of factors and better communication than did a matched group of parents. Given these findings, and to avoid introducing variability in marital satisfaction into the control group related to the experience of infertility, it seems important that childless comparison groups be composed only of couples who are childless by choice.

Many studies with childless comparison groups have not matched parent and nonparent groups on marital duration, resulting in childless comparison groups that may have been married for significantly different lengths of time than parent groups (e.g., MacDermid et al., 1990). For example, in Feldman's (1981) investigation, the childless comparison group was married nearly twice as long (62 months), on average, as the parent group (34 months). White and Booth (1985) noted that because childless couples are more likely to divorce, a continuing sample of childless participants may be more maritally satisfied and their marriages less prone to dissolution than a continuing sample of parents. This possibility, more so than the transition to parenthood itself, might account for early cross-sectional findings that parents seem to be

less satisfied with their marriages than nonparents. A third issue related to comparison groups is confined to the parent couples. The majority of transition to parenthood studies either do not include information on whether pregnancies were planned, or they report percentages of planned versus unplanned pregnancies in their samples but do not take this factor into account in analyses.

Studies that reduce potentially confounding sources of variability and that use appropriate comparison groups considerably sharpen the precision of inferences that can be drawn about the transition to parenthood. However, even with these refinements in place, most studies of this transition have begun during pregnancy, typically during the last trimester. This approach is efficient for identifying a sample of couples who will undergo the transition to parenthood, but it assumes that an assessment of marital satisfaction during pregnancy is an appropriate baseline for evaluating change in marriage. This approach also precludes evaluation of hypotheses comparing marital functioning prior to pregnancy to marital functioning over the transition to parenthood, and it forces investigators to identify comparison couples with a recruitment method different from that used to recruit pregnant couples, perhaps introducing another unwanted source of variability.

When an analysis of the transition to parenthood is embedded in a more encompassing perspective on the developing marriage, three questions become apparent. First, as Waite, Haggstrom, and Kanouse (1985) observed, “Perhaps those with the most stable marriages are more willing to have children for that reason” (p. 856). This statement implies that there may be a selection effect by which better marital functioning leads some couples to have their first child earlier rather than later in marriage. Shapiro et al. (2000) noted a link between initial satisfaction and the likelihood of becoming parents relatively early in marriage; however, a test of a selection hypothesis would require focusing specifically on those who planned their pregnancies. A second consideration that underscores the need for data collected prior to pregnancy is that there may be a *transition to pregnancy effect*, whereby marital satisfaction increases from pre-pregnancy to pregnancy. If such an elevation in satisfaction does occur, it may account for at least part of the ensuing declines in satisfaction from the last trimester of pregnancy into early parenthood. In the absence of pre-pregnancy data on satisfaction, this decline would be attributed to the arrival of the baby, when instead it might reflect regression to pre-pregnancy levels of functioning. Third, assessment of pre-pregnancy marital functioning allows for an evaluation of how satisfaction prior to pregnancy is related to changes in marital satisfaction during the transition to parenthood. Having pre-pregnancy data on marital satisfaction makes it possible to examine whether degree of change in satisfaction over the transition to parenthood is essentially uniform across couples, regardless of initial satisfaction, or whether the initial level of satisfaction serves a protective function (if high) or confers a special vulnerability (if low) as couples welcome their first child into the world.

In the present study, 156 couples were followed longitudinally from the first 6 months of marriage through 12 months after the birth of the first child. We collected these data to distinguish between the two dominant perspectives framing the large body of research on the transition to parenthood by incorporating the three main methodological refinements highlighted here. First, an attempt was made to limit sources of unwanted variability by recruiting a sample in which all couples were in their first marriages, all parent couples were bearing their first children, all parent couples underwent the transition to parenthood within the first 5 years of marriage, and the timing of assessments was coordinated with the age of the child such that the focal children were approximately the same age at each assessment point (8 months gestation, 6 months old, and 12 months old). Second, with regard to comparison conditions, this investigation involved a voluntarily childless control group matched to the couples undergoing the transition to parenthood on mean number of days married and included information on whether the parent couples’ pregnancies were planned or unplanned. Third,

data collection began within the first 6 months of marriage, thus providing a prepregnancy data point for parents and affording an opportunity to examine whether marital satisfaction early in marriage predicts relatively early self-selection into parenthood and the effects of the transition to parenthood on satisfaction.

We tested hypotheses using trajectories of husbands' and wives' marital satisfaction, which we generated by analyzing initial levels of satisfaction and rates of change in satisfaction over time. We expected a selection effect whereby spouses who were more maritally satisfied before pregnancy would be more likely to become parents in the first 5 years of marriage. We also expected that parents would experience steeper rates of decline in marital satisfaction over the transition to parenthood compared to non-parents assessed at similar stages of marriage. Additionally, we expected the strength of the negative effects of the transition to parenthood on marital satisfaction to vary depending on whether the pregnancy was planned versus unplanned and on spouses' levels of marital satisfaction prior to pregnancy. Specifically, the associations were expected to be stronger for spouses who reported less pregnancy planning and for spouses who were relatively less satisfied before pregnancy. We did not expect any sex differences in these associations.

Method

Participants

Participants were 156 married couples (104 parent couples and 52 nonparent couples) who were a subset of a sample of 172 couples recruited for a longitudinal study of the early years of marriage. Couples were recruited from marriage licenses filed in a major metropolitan city and screened to determine whether both spouses met the eligibility criteria for the larger study. Eligible spouses were between 18 and 35 years of age (to increase the probability that they could become parents during the project), had at least a 10th grade education, spoke English fluently, were not previously married, did not have and were not expecting a child at the beginning of the study (in the first 6 months of marriage), and had no plans to leave the area.

Following this initial screening, letters were sent to couples who met these criteria offering them \$300 to participate in a 4-year longitudinal study of marriage. Of these couples, 637 (18%) responded to the letter and were given an additional telephone screening to ensure that they met all eligibility criteria. Compared to those who did not respond, the 637 respondents were more likely to have cohabited premaritally, had more education and higher status jobs, and the wives were older.

The first 172 couples who met screening criteria and who came to the lab for Time 1 (T1) data collection comprised the sample.¹ Of the couples who participated in the project, 104 underwent the transition to parenthood for the first time during the course of the study. Attrition in this sample was low; at the final wave of data collection, only 9 couples of the original 172 had withdrawn from the study. The sample also included a control group of couples ($n = 52$ couples) who remained childless throughout the course of the study, were still childless as of a follow-up phone call after 5 to 6 years of marriage, and who completed the marital satisfaction measure at T1 and during at least two additional, consecutive waves of data (so that they could be matched to the parent couples on the basis of the average number of days between their wedding date and each data collection point). Another inclusion criterion for nonparent couples was that they be voluntarily childless for reasons outlined in the introduction. Childless couples who indicated that they had experienced difficulties with infertility in the previous 6 months (as assessed with a question included at each wave of data collection in the main project) were

¹Although data from this sample have been published elsewhere (e.g., Davila & Bradbury, 2001; Johnson et al., 2005; Lawrence, Nylén, & Cobb, 2007), this is the first article to compare change in couples who did and did not have a child.

eliminated from analyses. Spouses included in the present study ($n = 156$ couples) did not differ from spouses who participated in the larger study but who were not included in the present study ($n = 16$ couples) on demographics (age, race, religion, education, employment status, type of work, income, premarital cohabitation, or duration of premarital relationship).

In the first 6 months of marriage (T1), of the 156 couples included in the present study, wives averaged 25.9 years of age ($SD = 3.4$), 16.1 years of education, and had a median income between \$11,000 and \$20,000. Husbands averaged 27.8 years of age ($SD = 4.1$), 15.8 years of education, and had a median income between \$21,000 and \$30,000. Most husbands were employed (91%) and worked in semiprofessional jobs. Most wives were employed (84%) and worked in semiprofessional jobs. Husbands and wives, respectively, reported their religious affiliations as Protestant (37%, 43%), Catholic (30%, 28%), Jewish (2%, 2%), Mormon (4%, 4%), none (24%, 7%), and other (3%, 5%). Participants reported their ethnicity as Caucasian (64%), Hispanic (16%), Asian American (14%), African American (4%), and other (2%).

The parent group and the voluntarily childless group were matched based on the average number of days that had elapsed between their wedding date and their T2 data point. Independent sample t tests and chi-square analyses of demographic variables revealed no significant differences between parents and nonparents.

For parent couples, T1 represents prepregnancy data collected within the first 6 months of marriage, Time 2 (T2) represents a data point at 1 month prior to the birth of the first child, and Times 3 (T3) and 4 (T4) represent points at 6 and 12 months postpartum, respectively. For nonparent couples, T1 represents a data point collected within the first 6 months of marriage, and the second, third, and fourth data points occurred at, on average, the same number of days after their wedding date as T2 to T4 data collection occurred for the parent couples. Mean months of marriage at each time point in this study were 3 months (T1), 27 months (T2), 34 months (T3), and 39 months (T4). Independent samples t tests revealed no significant differences between the number of days elapsed from the wedding date to the three data collection points for parents versus nonparents.

Measures

Marital satisfaction—The Quality of Marriage Index (QMI; Norton, 1983) was administered to each spouse at each wave of data collection. The QMI consists of 6 items measuring global perceptions of marital satisfaction. Spouses rate the extent to which they agree with evaluative statements about their marriage. Scores can range from 6 to 45, and coefficient alphas exceeded .95 for husbands and wives in the present sample.

Degree of pregnancy planning—To examine whether there is a selection effect into parenthood and whether the planning of pregnancy is related to marital satisfaction levels across the transition to parenthood, we analyzed the extent to which couples reported planning their pregnancies. In the T2 data packet for parents, which was completed 1 month prior to the birth of their first child, spouses were asked to report the degree to which the current pregnancy was planned. Response options ranged from 1 (*not at all planned*) to 7 (*definitely planned*). The bivariate correlation between husbands' and wives' reports of pregnancy planning was .72.

Procedure

All procedures were approved by the University of California, Los Angeles's institutional review board. Participating couples provided informed consent for the entire study before completing any questionnaires. In the larger project, husbands and wives completed questionnaires every 6 months over the first 5 years of marriage. At the first and third

assessments, couples completed questionnaires at home and then came into the laboratory to complete a series of procedures beyond the scope of the present study. At all other assessments, couples completed questionnaires at home and mailed them to the laboratory. Marital satisfaction measures and questions about pregnancy planning and infertility problems were always completed at home rather than in the laboratory. Prior to each wave of data collection, participants were called and asked a standard series of questions concerning changes in residence, marital status, and pregnancy status. Couples expecting a child were invited to complete three additional packets of questionnaires: one at approximately 1 month before the birth of the child, one at 3 months postpartum, and one at 6 months postpartum. All packets included the Quality of Marriage Index. Mean marital satisfaction scores for parents and nonparents at each time point are presented in Table 1. Payments to couples ranged from \$25 to \$75 at each time point, depending on the number of other measures and procedures completed at each time point as part of the larger study.

Data Analyses

All analyses were conducted with growth curve analytic techniques (Raudenbush & Bryk, 2001) and the HLM 6 computer program (Raudenbush, Bryk, & Congdon, 2004). Growth curve analytic techniques allow for a two-level process in data analysis. Level 1 allows for the estimation of within-subjects trajectories of change (growth curve) for a variable, described by two parameters: an intercept (initial level of the variable) and a slope (rate of change over time). Growth curve analytic techniques provide tests of whether, on average, these intercepts and slopes differ significantly from zero and whether there is variability in these estimates across spouses. As recommended by Raudenbush and Bryk (2001), we analyzed husbands' and wives' data simultaneously (within the same equations as opposed to nesting spouses within couples). Time was estimated as number of months since the couple's wedding date. A linear model of marital satisfaction was specified by the equation

$$Y_{ij} = \beta_{1j}(\text{husbandintercept}) + \beta_{2j}(\text{wifeintercept}) \\ + \beta_{3j}(\text{husbandslope}) + \beta_{4j}(\text{wifeslope}) + r_{ij},$$

where Y_{ij} is the outcome variable for individual j at Time i ; β_{1j} and β_{2j} are the intercepts of individual j (i.e., the initial level of the outcome variable); β_{3j} and β_{4j} are the rates of change in the outcome for individual j over time; and r_{ij} is the residual variance in repeated measures for individual j . In hierarchical linear modeling, the coefficients can be understood as functionally similar to unstandardized regression coefficients, and they represent the degree of association between the predictor and outcome. Each parameter includes a constant and a unique error term such that the Level 2 equations associated with this baseline linear model are

$$\beta_{1j}(\text{husbandintercept}) = \gamma_{10} + \mu_{1j}, \\ \beta_{2j}(\text{wifeintercept}) = \gamma_{20} + \mu_{2j}, \\ \beta_{3j}(\text{husbandslope}) = \gamma_{30} + \mu_{3j},$$

and

$$\beta_{4j}(\text{wifeslope}) = \gamma_{40} + \mu_{4j},$$

where each Level 1 coefficient is modeled as a function of the group mean (e.g., γ_{10}) and error (e.g., μ_{1j}).

Level 2 allows for the examination of between-subjects differences in associations between time-invariant covariates and outcomes; that is, individual characteristics can be examined as predictors of the parameters that describe each individual's growth curve. At Level 2, we

modeled the Level 1 coefficients as a function of the time-invariant predictors—parental status, pregnancy planning, and initial marital satisfaction—using the following equations:

$$\beta_{1j}(\text{husbandintercept}) = \gamma_{10} + \gamma_{11}(\text{predictor}) + \mu_{1j},$$

$$\beta_{2j}(\text{wifeintercept}) = \gamma_{20} + \gamma_{21}(\text{predictor}) + \mu_{2j},$$

$$\beta_{3j}(\text{husbandslope}) = \gamma_{30} + \gamma_{31}(\text{predictor}) + \mu_{3j},$$

and

$$\beta_{4j}(\text{wifeslope}) = \gamma_{40} + \gamma_{41}(\text{predictor}) + \mu_{4j}.$$

When more than one predictor was entered into a given Level 2 equation, additional coefficients were added. We entered husbands' and wives' predictors simultaneously into all Level 2 equations. Continuous predictors (T1 marital satisfaction, pregnancy planning) were grand mean centered and categorical predictors (parental status) were entered as uncentered variables at Level 2.

Results

Coefficients for the four parameters estimated with the linear model were husband intercept (39.92, $SE = .41$), wife intercept (40.30, $SE = .39$), husband linear slope ($-.08$, $SE = .01$), and wife linear slope ($-.07$, $SE = .01$). On average, marital satisfaction declined linearly over time: husbands' slopes, $t(155) = -6.16$, $p < .001$; wives' slopes, $t(155) = -5.82$, $p < .001$. There was significant between-subjects variability across all four parameters (chi-square tests of variance ranged from 207.89 to 435.00, all $ps < .001$). There were no significant differences between husbands' and wives' intercepts, $\chi^2(1) = .83$, ns , or husbands' and wives' slopes, $\chi^2(1) = .03$, ns , in the linear model.

Results for all of the main growth curve analyses are presented in Table 2. First, we expected newlywed spouses to demonstrate a selection effect such that husbands and wives who were more maritally satisfied at the beginning of marriage ($M = 3$ months of marriage) would be more likely to become parents within the first 5 years of marriage compared to spouses who were less maritally satisfied initially. Spouses were given a dummy code of 0 (nonparents) or 1 (parents) to represent whether or not they became parents during the course of the study. Parental status was significantly associated with initial levels of marital satisfaction; husbands and wives who were more maritally satisfied at the beginning of marriage (i.e., before becoming pregnant) were also more likely to become parents in the first 5 years of marriage (husbands' effect size $r = .21$; wives' effect size $r = .24$). These results support the presence of a selection effect; initial marital satisfaction is related to having children early in marriage.

We also expected the transition to parenthood to be negatively associated with husbands' and wives' marital satisfaction slopes. Parent couples were expected to experience steeper declines in marital satisfaction compared to couples without children who were assessed at a similar stage of marriage, even after controlling for initial levels of marital satisfaction. Parental status was associated significantly with rates of change in marital satisfaction; parents experienced steeper declines in marital satisfaction compared to nonparents (husbands' effect size $r = .23$; wives' effect size $r = .24$).

The mean rate of decline in marital satisfaction for non-parent husbands was 0.07 units per month, and for parent husbands it was 0.13 units per month. Thus, over the approximately 39 months that the average trajectory spans in this investigation, marital satisfaction scores on the QMI declined an average of 2.73 points for nonparent husbands and 5.07 points for parent husbands. Similarly, the mean rate of decline in marital satisfaction for nonparent wives was 0.06 units per month, and for parent wives it was 0.13 units per month. Thus, over the

approximately 39 months that the average trajectory spans in this investigation, marital satisfaction scores on the QMI declined an average of 2.34 points for nonparent wives and 5.07 points for parent wives.

Next we conducted analyses on the subset of couples who became parents during the course of the study and who provided data on the extent to which the pregnancy was planned. Pregnancy planning and prepregnancy levels of satisfaction were analyzed simultaneously as time-invariant predictors of parents' marital trajectories. We expected spouses who reported greater pregnancy planning to have higher levels of marital satisfaction and more stable marital satisfaction slopes across the transition to parenthood compared to spouses who reported that their current pregnancies were relatively unplanned. Husbands' and wives' reports of the extent to which the pregnancy was planned were entered simultaneously as within-spouse predictors of marital satisfaction. Husbands' pregnancy planning was marginally associated with their initial (i.e., prepregnancy) marital satisfaction (effect size $r = .21$), and wives' pregnancy planning was significantly associated with their initial marital satisfaction (effect size $r = .36$). Thus, husbands and wives who were more maritally satisfied before getting pregnant also reported greater pregnancy planning. Pregnancy planning was also significantly positively associated with husbands' (but not wives') satisfaction slopes (husbands' effect size $r = .24$; wives' effect size $r = .15$). To the extent that husbands did not plan these pregnancies, husbands' marital satisfaction declined at a steeper rate over the transition to parenthood. Of note, husbands' and wives' coefficients were not significantly different when predicting initial levels of marital satisfaction, $\chi^2(1) = .90$, *ns*, or rates of change in satisfaction over time, $\chi^2(1) = .60$, *ns*.

Finally, we examined whether prepregnancy levels of satisfaction moderated the extent to which marital satisfaction declined over the transition to parenthood. We hypothesized that spouses who were relatively less satisfied early in marriage (and prior to becoming pregnant) would experience faster rates of deterioration in marital satisfaction over the transition period. At first it appeared that parents who had higher levels of prepregnancy marital satisfaction experienced significantly steeper declines in satisfaction over time (husbands' effect size $r = .45$; wives' effect size = $.36$). Husbands' and wives' coefficients were not significantly different, $\chi^2(1) = .02$, *ns*.

We were surprised by the negative associations between initial marital satisfaction and the estimated marital satisfaction slopes for husbands and wives; thus we also examined the standardized Tau matrix, which contains correlations between estimated intercepts and slopes. The Tau matrix represents actual initial marital satisfaction scores (as opposed to estimated scores) that are modeled as "true scores" without measurement error. Correlations between intercepts and slopes were strong and positive for husbands ($r = .85$) and for wives ($r = .88$). Thus, husbands' and wives' intercepts were strongly correlated with their slopes and in ways that are consistent with prior research.

Discussion

Although decades of research have documented the impact of the transition to parenthood on marital relationships, debate over whether having a child initiates a relatively large, encompassing, and enduring shift in marital satisfaction or whether this transition has a more modest and transient effect on relationship satisfaction continues. To clarify this debate, we limited several sources of variability left uncontrolled in previous transition to parenthood studies (e.g., remarriage, marital duration, child's age), we included a voluntarily childless comparison group recruited via identical procedures and matched on marital duration to parent couples, and we collected data prior to pregnancy for couples who later became parents. For couples who became parents, marital satisfaction was assessed in the first 6 months of marriage,

1 month prior to the birth of the first child, and at 6 and 12 months postpartum. Marital satisfaction was examined at corresponding points from a comparable group of voluntarily childless couples. Growth curve analyses were conducted to examine and predict initial levels and rates of change in marital satisfaction over the transition to parenthood. As detailed below, results indicated that the transition to parenthood is associated with greater declines in marital satisfaction than is seen in non-parent couples and that information on marriage and pregnancy planning prior to the transition to parenthood aids prediction of how and why marital change occurs over this transition.

First, we found support for a selection effect; husbands and wives who became parents within the first 5 years of marriage were more maritally satisfied as newlyweds compared to nonparent husbands and wives. Shapiro et al. (2000) similarly found that wives who were more satisfied initially were more likely to become parents within the first 4 to 6 years of marriage. Shapiro et al. did not find a significant association for husbands; however, sex differences were not examined statistically in the Shapiro et al. study, so it is unclear whether the findings in our study are truly inconsistent with those reported by Shapiro et al.

Second, we found support for our hypothesis that the transition to parenthood would be associated with marital decline over and above the normative declines in satisfaction experienced by nonparent couples of similar marital duration. Parent couples experienced a significantly steeper drop in satisfaction compared to nonparent couples from the prenatal period through 12 months postpartum, suggesting that the transition to parenthood does have an adverse effect on marital satisfaction, at least through the 1st year postpartum. Prior researchers have demonstrated that mean levels of satisfaction do not differ between parents and nonparents when examined via analyses of variance or correlations (e.g., Kurdek, 1993). The present study builds upon this research by moving from a between-subjects examination of mean levels of satisfaction to a within-subjects examination of rates of change in satisfaction. The findings in the present study also support the use of a developmental orientation for understanding the impact of the transition to parenthood on marriage. By including a control group of nonparent couples, we were able to determine that declines in satisfaction among parents observed across the transition to parenthood are a function of the transition itself—or the movement from one stage of the family life cycle to the next—as opposed to those declines in satisfaction being normative for all couples married for similar lengths of time.

Next, we examined the factors that we expected to moderate links between the transition to parenthood and marital satisfaction trajectories. We first examined whether these associations would differ for husbands and wives to the extent that they reported planning these pregnancies. We found mixed evidence regarding the extent to which pregnancy planning predicted satisfaction trajectories. Husbands and wives who were more satisfied with their marriages prior to pregnancy also reported greater pregnancy planning. (This finding was only marginally significant for husbands.) This finding builds upon the work of Shapiro et al. (2000) by clarifying that the magnitude of the previously reported selection effect varies as a function of the extent to which couples planned their pregnancies. Further, husbands (but not wives) who planned these pregnancies also experienced more stable marital satisfaction (i.e., less decline) over the transition to parenthood. However, sex differences were not statistically significant. These results are generally consistent with prior research demonstrating that pregnancy planning covaries with postpartum marital satisfaction (Wright et al., 1986) and that couples with unplanned pregnancies report steeper declines in satisfaction over the transition to parenthood compared with couples who reported planning their pregnancies (Cox et al., 1999).

Finally, we hypothesized that the negative associations between the transition to parenthood and marital satisfaction would be moderated by prepregnancy levels of satisfaction such that

parent couples who were more highly satisfied before pregnancy would experience smaller declines in satisfaction (i.e., greater stability in marital satisfaction) across the transition to parenthood. We found the opposite association such that parents who were more satisfied before pregnancy experienced steeper declines in satisfaction across the transition to parenthood compared to parents with lower levels of prepregnancy satisfaction. Lawrence, Nylen, and Cobb (2007) analyzed trajectories of marital satisfaction from the beginning of marriage through the third trimester of pregnancy and found that levels of marital satisfaction remained relatively stable for husbands and declined for wives during this period. Thus, the postpartum declines that we found in the present study do not appear to be due to a transition to pregnancy effect; spouses' levels of marital satisfaction do not increase significantly during pregnancy. Rather, even after implementing a variety of methodological controls, we still found that the transition to parenthood hastens the typical linear decline in marital satisfaction over the early years of marriage. However, factors that we expected to be protective (i.e., prepregnancy levels of marital satisfaction) generally buffered the effects of having a child on marital decline.

Interpretation of the present findings must be qualified by several factors. First, the sample sizes for the analyzed subgroups were relatively small. Analyses of the present hypotheses with a larger sample are needed to overcome this limitation. Second, we acknowledge that the emphasis placed on the internal rigor in this study is offset by constraints on the generalizability of the findings. We did not study unmarried couples having children or the arrival of children into marriages that were longer than 5 years in duration. In both cases, we might see stronger associations than those obtained here or, alternatively, a rebound in relationship satisfaction after the child's first birthday. Third, we emphasize that the nonexperimental nature of this study precludes strong causal inferences.

Several implications can be drawn from the present study that might inform future investigations of the transition to parenthood, particularly concerning how we conceptualize the boundaries of this transition and how we organize data collection. First, initiating studies of the transition to parenthood prior to pregnancy yields findings not available in studies that begin during pregnancy. The available marital satisfaction data collected early in marriage—prior to conception—suggest that husbands and wives who planned successfully to become parents in the first 5 years of marriage tended to be happier before becoming pregnant compared to spouses who became parents but reported relatively less pregnancy planning. We speculate that husbands and wives who are particularly oriented toward valuing strong social relationships may be especially likely to invest in their marriage and to establish plans for when they want to become parents. Alternatively, independent of any positive disposition toward relationships, spouses who experience unusually high levels of satisfaction early in marriage may perceive the relationship as advantageous for childrearing and plan for parenthood accordingly. Data collected prior to marriage are needed to test these and other explanations for how marital functioning is associated with planning for parenthood and to explore husbands' and wives' apparently differing roles in this process. More generally, marital phenomena pertaining to the transition to parenthood may be instigated long before pregnancy and the child's arrival. Consequently, the present findings support the value of studying this transition as an important event in the course of developing marriages rather than as an event examined in isolation from the couples' lives prior to pregnancy.

The present study also demonstrates the need for multiple waves of data when investigating the transition to parenthood. Cox et al. (1999) contended that “when data are gathered from parents on only one or two occasions soon after the birth of the child, short-term fluctuations in satisfaction may be detected, but more gradually emerging effects remain undiscovered” (p. 612). Thus, a second implication of the present study is that studies of the transition to

parenthood based on only one or two waves of data may actually underestimate the effect of the child's arrival on the marriage, at least over the 1st year postpartum.

We began by presenting two perspectives guiding the large literature on marital satisfaction over the transition to parenthood. Our findings generally support the second perspective—that having a child does produce changes in the quality of the marital relationship, to varying degrees among different couples, as determined by the quality of the marital relationship long before pregnancy and by the degree to which the pregnancy was planned. The significant changes in marital satisfaction that we found for parents were maintained over the first 12 months postpartum.

Studies demonstrating effects over longer follow-up assessments raise important questions about how long we can assume the transition to parenthood continues. Our finding that declines in satisfaction for parents continue for the modal couple through the baby's first birthday are not necessarily inconsistent with that of Cox et al. (1999), who found that the most extreme declines in marital satisfaction over the transition to parenthood were at approximately 1 year postpartum, and then marital satisfaction appeared to rebound slightly in the child's 2nd year. Other studies have shown that the most significant declines in satisfaction occur after the child's first birthday. Specifically, Shapiro et al. (2000) found that nearly half of the parent wives in their sample who reported declining marital satisfaction over the transition to parenthood did not report this decline until at least 1 year postpartum. These and other findings highlight the marked heterogeneity in how couples negotiate the transition to parenthood, but one complication of conceptualizing the transition to parenthood as lasting beyond a certain point is that effects attributable to the birth of a child are confounded with other important phenomena: marital conflict arising from scheduling difficulties at work, accumulated fatigue, problems locating appropriate child care, the arrival of a second child, or poor coordination of parenting roles. Indeed, we can assume that some of these factors were operating in the present sample, and they may continue to operate after our 12-month postpartum data point and contribute to declines in marital functioning. Our more general point, consistent with the view that the transition to parenthood is best approached not in isolation but as an important period in a typically long-standing and changing dyadic relationship, is that a child arrives in a relationship that has already been altered by the prospects of parenthood and then sets in motion a host of new tasks and challenges for the couple for years to come. Parenthood can be interpreted as encompassing all of these tasks and challenges, yet it may prove advantageous to distinguish between the immediate transition into this important role and the subsequent demands of child care and family development.

Another possibility is that the impact of the transition to parenthood on the developmental course of marital satisfaction is only part of the larger family system. It is possible that declines in marital satisfaction postpartum are offset by levels of satisfaction with the parenting role. Van Egeren (2003) assessed marital and coparenting experiences in a sample of first-time parents four times from the third trimester through 6 months postpartum. Based on growth curve analyses, changes in postpartum marital experiences were inversely related to changes in coparenting experiences, suggesting that one aspect of the couple or family relationship may be maintained at the expense of another aspect.

We conclude with two practical implications drawn from the present findings. First, professionals delivering workshops and other educational content about parenthood to couples should be aware that prepregnancy levels of marital satisfaction will tend to constrain spouses' evaluations of the marriage after the baby is born. This assertion is consistent with C. P. Cowan and Cowan's (1995) important observation that "a baby's arrival is unlikely to destroy very well-functioning marriages or generate closer, more satisfying relationships between already troubled partners" (p. 415). Second, given that the manner in which couples negotiate the

transition to parenthood could have a lasting impact on their marriage and on their children's emotional well-being, it seems plausible that couples at this early stage of family formation could derive significant benefit from being made aware of the results of this and similar studies. Knowing that the transition to parenthood may bring about a disruption in marital satisfaction for the average couple, and that the quality of the marriage prior to this transition is a strong predictor of how well couples navigate this transition, suggests the need to intervene at the dyadic level long before the child arrives and even long before pregnancy.

Acknowledgements

Collection and analysis of these data were supported by National Institute of Mental Health Grant 1 F31 MH11745 to Thomas N. Bradbury, Centers for Disease Control and Prevention Grants R49/CCR721682 and 4 R49 CE721682 to Erika Lawrence, National Institute for Child and Human Development Grant 4 RO1 HD046789 to Erika Lawrence, a National Institute of Mental Health National Research Service Award to Erika Lawrence, and a research grant from the University of Iowa to Erika Lawrence. We thank Jennifer Christian-Herman, Catherine Cohan, Jeb Cozzi, Joanne Davila, Benjamin Karney, Gregory Miller, Lauri Pasch, Ron Rogge, and Kieran Sullivan for their assistance with data collection.

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Table 1
Mean Marital Satisfaction Scores for Parent and Nonparent Husbands and Wives Across Four Waves of Data

Time	Parents		Nonparents	
	Husbands <i>M</i> (<i>SD</i>)	Wives <i>M</i> (<i>SD</i>)	Husbands <i>M</i> (<i>SD</i>)	Wives <i>M</i> (<i>SD</i>)
1	41.33 (4.67)	42.22 (3.68)	41.18 (4.35)	41.02 (4.56)
2	40.44 (5.55)	41.23 (5.43)	40.31 (5.78)	40.25 (7.09)
3	38.98 (6.91)	38.93 (7.37)	39.69 (6.19)	39.36 (6.99)
4	37.64 (7.99)	38.20 (7.88)	38.78 (7.52)	39.95 (5.80)

Note. Observed means are presented in this table. Scores on the Quality of Marriage Index (presented in this table) can range from 6 to 45, with higher scores indicative of higher levels of marital satisfaction. $N = 104$ parent couples and 52 nonparent couples. Time 1 = average of 3 months of marriage; Time 2 = 1 month before birth for parents and a comparable time for nonparents; Time 3 = 6 months postpartum for parents and a comparable time point for nonparents; Time 4 = 12 months postpartum for parents and a comparable time point for nonparents.

Table 2
 Predictors of Trajectories of Marital Satisfaction Over the Transition to Parenthood

Trajectory	Predicting husbands' satisfaction			Predicting wives' satisfaction		
	Coefficient (SE)	t test	Effect size r	Coefficient (SE)	t test	Effect size r
Parental status → initial satisfaction ^a	1.97 (.93)	2.11*	.21	2.39 (.99)	2.42*	.24
Parental status → satisfaction slopes ^d	-0.06 (.02)	-2.35*	.23	-0.07 (.03)	-2.41*	.24
Pregnancy planning → initial satisfaction ^b	0.52 (.29)	1.81 [†]	.21	0.84 (.26)	3.23***	.36
Pregnancy planning → satisfaction slopes ^b	0.21 (.01)	2.05*	.24	0.01 (.01)	1.25	.15
Initial satisfaction → satisfaction slopes ^b	-0.01 (.00)	-4.23****	.45	-0.02 (.00)	-3.20***	.36

Note. Effect size $r = \sqrt{f^2 / (f^2 + d)}$. Coefficients and standard errors for parental status represent the *difference* between nonparent and parent intercepts and slopes. Husbands' and wives' pregnancy planning and initial satisfaction were entered simultaneously as within-spouses predictors.

^a $N = 156$ couples.

^b $n = 104$ couples.

[†] $p < .10$.

* $p < .05$.

*** $p < .005$.

**** $p < .001$.