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The Marriage Moments Program for Couples Transitioning to Parenthood: Divergent Conclusions From Formative and Outcome Evaluation Data

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This article presents the results of a pilot study of the Marriage Moments program, designed to prevent relationship deterioration during the 1st year of parenthood. The self-guided, low-intensity program emphasizes strengthening marital virtues and partnership during this time of significant personal and family transition. One hundred fifty-five married couples participated in a randomized clinical trial with 2 psychoeducational treatment groups (a self-guided group and an instructor-encouraged group) and a comparable control group. Despite positive formative evaluation results from program participants, hierarchical linear modeling analyses failed to find significant Group × Time differences on spouses' reports of marital virtues and a set of relational outcome measures. This failure reinforces the need for psychoeducators to invest in outcome evaluation research before claiming program success.

Keywords: childbirth education, marriage education, psychoeducation, program evaluation, transition to parenthood

For several decades, family researchers have identified the transition to parenthood as one of the most challenging family transitions (Belsky & Rovine, 1990; Huston & Holmes, 2004; Kurdek, 1999; Michaels & Goldberg, 1988). Among the most consistent findings is that the transition to parenthood is generally associated with a decline in marital satisfaction for both wives and husbands (C. P. Cowan & Cowan, 2000; P. A. Cowan & Cowan, 1990; Twenge, Campbell, & Foster, 2003). A primary reason for declining satisfaction is that couples sense themselves going in different directions; the division of household labor becomes more traditional, in that men focus more on the challenges of providing economic support and women focus more on domestic life (C. P. Cowan & Cowan, 2000; P. A. Cowan & Cowan, 1990). In addition, new-parent couples get less pleasure and rejuvenation from their time together (Belsky, Lang, & Rovine, 1985; Crawford & Huston, 1993).

The transition to parenthood may be particularly difficult for contemporary couples because of the cultural belief in what Fowers (2000) termed the *myth of marital happiness* (p. 5). Fowers argued that many individuals enter marriage believing they have found their soul mate and expecting to live happily ever after. In contrast, Fowers suggested that marriage is most fulfilling as a partnership of shared goals nurtured by the virtues of friendship, generosity, justice, and loyalty. These virtues are particularly important during the transition to parenthood because idealistic expectations come face to face with the realities of limited time and energy.

Because of the relationship challenges couples face as they become parents, many researchers have identified this transition as an important time for intervention (Belsky & Pensky, 1988; C. P. Cowan & Cowan, 2000; Shapiro, Gottman, & Carrére, 2000; Twenge et al., 2003). Two decades ago, C. P. Cowan et al. (1985; P. A. Cowan and Cowan, 1990) tested an intensive intervention for couples during the transition to parenthood. Their longitudinal study of this intervention found that intervention-group couples had a lower risk of divorce and a higher sense of marital quality over the first 5 years of parenthood, even though both groups experienced the same problems. The authors' impressive study, however, did not immediately spawn further program development, perhaps because this intensive 16-session intervention, which used therapists as group leaders, did not lend itself to easy replication. Recently, scholar–practitioners have been developing and evaluating psychoeducational interventions to help new-parent couples.

For instance, Shapiro and Gottman (2005) developed a psychoeducational intervention for new-parent couples that was added onto regular childbirth education classes. The program was delivered in a 2-day workshop and covered nine distinct topics and 18 specific couple exercises. The program was based on 2 decades of seminal research on relationship principles and communication behaviors that

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predict successful marriages (Gottman & Silver, 1999). The curriculum also included parenting and infant-care instruction. An evaluation study showed that the intervention was effective on 1-year follow-up measures of the couple's relationship quality, the mother's and father's self-reported psychopathology, and the mother's hostile affect.

In addition, Jordan, Stanley, and Markman (1999) developed a 27-hr psychoeducational intervention for couples delivered before and after the birth of the first child. The curriculum was based on the heavily researched Prevention and Relationship Enhancement Program (Jordan et al., 1999). The program stresses effective conflict-resolution skills and important relationship principles, such as commitment, as well as coparenting and infant care instruction. A federally funded study currently is evaluating the program's effectiveness.

Both these programs demand significant investments in classroom time from participants and require highly trained instructors. Intensive psychoeducation may not appeal to many transitioning couples, however, especially when they are so focused on the baby rather than on their relationship. Accordingly, there is a need for an additional approach to inoculating transitioning couples against potential relationship problems. In particular, a public health approach may have merit (Hawkins, Carroll, Doherty, & Willoughby, 2004).

Public health education generally attempts to promote health and well-being by targeting populations (U.S. National Institutes of Health, 2002) rather than focusing on single individuals or couples, as in clinical work, or small groups of people, as in most psychoeducational programs. Public health education often involves easy-to-access materials distributed as efficiently and widely as possible, with supportive buy-in from community systems to reinforce the value of the information. Education generally becomes more self-guided in a public health model.

There is evidence that self-guided, psychoeducational interventions can be effective. A meta-analysis of self-guided mental health interventions suggested that a classroom and instructor are not required for helpful intervention (Scoggin, Bynum, Stephens, & Calhoon, 1990). Parenting education researchers have found that parents of newborns (Riley, Meinhardt, Nelson, Salisbury, & Winnett, 1991; Walker & Riley, 2001) and adolescents (Bogenschneider & Stone, 1997) who were mailed an age-paced newsletter self-reported behavior change in child-rearing behaviors and that parents in higher risk groups reported the most change. In addition, in terms of marriage education, Gottman's (2002) intervention research showed that individuals who read a marriage enhancement book on their own received some of the benefit to their relationship that couples in more intensive classroom settings received.

In this study, we tested whether a low-intensity, self-guided, public health education approach to marriage and couples education during the transition to parenthood—rather than a more intensive psychoeducational approach—is feasible. We developed a program—Marriage Moments—that consists primarily of an inexpensive workbook with self-guided learning activities that is distributed to transitioning couples with support from childbirth educators. The program puts research-based information and activities in the hands of expectant couples attending childbirth classes. This approach avoids the recruitment challenges of intensive psychoeducation and gets information to more couples.

The goal of this study was to determine whether the Marriage Moments program is effective at preventing relationship deterioration during the 1st year of parenthood. We compared three groups on program involvement and outcome evaluation data: a treatment group that received the Marriage Moments program with directed encouragement from their childbirth educators to participate in the program, a second treatment group that received the program but did not receive any encouragement from childbirth educators, and a comparison group that did not participate in the Marriage Moments program. The first study questions explored program involvement and satisfaction with formative evaluation data. The remaining study questions explored outcome differences among the groups on measures of marital virtues, marital quality and satisfaction, and adjustment to the transition to parenthood.

Method

Participants

One hundred fifty-five couples expecting their first child enrolled in the study during 2002. Husbands' average age was 25 years (range = 19–41). Wives' average age was 24 years (range = 19–33), which is equivalent to the median age of mothers at the birth of their first child for Utah, the state in which the study was conducted, but 2 to 3 years younger than the national average (Sutton & Mathews, 2004). Couples had been married, on average, 2.7 years (*SD* = 1.5, range = 1–9); only 1 individual was in a second marriage. Our sample reflected the lack of ethnic–racial and religious diversity in the surrounding communities of Utah County, Utah. Ninety-one percent of the participants were White, 5% were Hispanic, 3% were Asian, and 1% were Native American. About 90% of participants were Mormon. Participants were well educated; nearly half had completed a college education, and only 1% had not received a high school diploma. At the intake interview, 94% of husbands and 77% of wives were employed (husbands' average work hours = 35.4; wives' average work hours = 32.1). Only 37% of wives were employed at the 3-month postnatal assessment. Participants were not asked about income, because most of these couples were young and finishing their education or beginning their work careers; income would not have been an effective indicator of socioeconomic status in this case. More than 80% of couples reported that they had definitely planned the pregnancy; only about 5% reported that the pregnancy was unplanned. Nationally, nearly 50% of couples report that their first pregnancy was not specifically planned (Henshaw, 1998). Previous research (Belsky & Rovine, 1990) suggests that pregnancy intentionality may be a predictor of adjustment during the transition to parenthood.

Procedures and Design

Couples were recruited through existing childbirth education classes at three hospitals in Utah County, Utah. When a couple signed up for childbirth classes at their local hospital, a clerk informed them that there was a study of how having a baby affects couples' relationships. They were asked whether they were inter-

ested in participating in the study and told that researchers would pay their childbirth class fee ($45) if they chose to participate. The clerk recorded the names of 236 interested couples. (Hospital clerks did not provide us data on the number of couples who were not interested in the study.) Research assistants then attempted to contact each couple by phone and explain the study; they also explained the class fee waiver before enrolling couples in the study. Research assistants also explained that couples who completed the program curriculum would receive a $20 gift certificate to a local department store as reimbursement for their time. In addition, all couples who completed the Time 4 survey received a $10 gift certificate. Sixty-six percent of couples who initially indicated interest in the study agreed to enroll. About 26% of interested persons could not be reached or could not be interviewed on time. Six percent declined to participate after contact, and 2% were determined not to be eligible for the study. Recruitment took place over a period of 9 months.

When couples called to enroll in childbirth classes, they selected a class that was convenient for their schedule (e.g., Monday nights vs. Thursday nights). Researchers had randomly preassigned each class to be included in one of two treatment groups or a control group. Fifty-one couples were in an instructor-encouraged treatment group (IE-T). This group viewed a 7-min Marriage Moments video segment each week as part of their childbirth class instruction. In addition, these couples were given Marriage Moments workbooks and asked by their instructors to do specific readings and activities at home each week. (Not all couples in each class were participating in the study, but every couple received the workbooks.) These instructors did not receive intensive training in the Marriage Moments curriculum; researchers just provided them instructions to introduce the video in class, encourage use of the workbook during the week, and make a simple inquiry about how things had gone during the week at the next childbirth class. (A research assistant visited each class at least once to make sure that instructors were following this protocol.) Program content was communicated through the video presentations and workbooks. Hence, there should have been minimal variation in the program introduced by the childbirth educators. The average class size was about 20 individuals.

A second treatment group included 55 couples who did not receive this kind of encouragement to participate in the Marriage Moments curriculum from their childbirth educators. For these couples, there was no change to the standard childbirth education classes. Instead, research assistants delivered the video and workbooks (and accompanying instructions) to the participants at the end of the intake interview. This group was labeled the self-guided treatment group (SG-T). This different treatment procedure was included in the design to test whether childbirth educators' involvement was essential to the intervention or whether simply putting educational materials directly into the hands of transitioning couples would be sufficient.

Forty-eight couples were assigned to the control group and did not receive any Marriage Moments materials, and no mention of Marriage Moments was made in their childbirth classes. Control-group couples were told by research assistants at the intake interview that they would receive Marriage Moments workbooks at the end of the study.

During an intake interview, all participants were given more information about the study, including whether they were in a treatment or a control group. Couples were asked to read and sign a consent form, approved by both a university and a hospital human subjects review board, and given a chance to ask any questions. All participants provided signed consent.

All spouses agreed to complete a battery of assessments at four times: before the childbirth class (Time 1, usually 3–4 months before birth), immediately following the childbirth class (Time 2, usually about 2 months before birth), at 3 months after the baby's birth (Time 3), and at 9 months after the birth (Time 4). Research assistants collected assessments before and after the childbirth classes and at 3 months after birth in visits to the participants' home. The final 9-month assessment was collected via mail because many couples in this highly mobile sample had moved out of the area but were willing to continue with the study if survey materials were mailed to them. Thus, to limit study attrition and to be consistent with the data collection protocol for all couples at Time 4, we used a mail-out/mail-back procedure at Time 4. Participants were instructed to fill out the assessments individually and return them in a postage-paid envelope.

Power Analyses

During the design phase of the study, power analyses were conducted. Because Marriage Moments is a less intense intervention than some others, modest effect sizes as low as .25 were anticipated. Effect sizes of this approximate magnitude have been found in program evaluation studies on, for example, enhancing father involvement (effect size = .24; McBride, 1990). With effect sizes of .25 ($\alpha = .05$) and with 40 couples per group (we anticipated some sample attrition), outcome analyses in this study could detect Group $\times$ Time interactions with a power of .92.

Marriage Moments Program

The Marriage Moments curriculum uses five brief video presentations, each introducing a topic based on Fowers's (2000) marriage virtues model. Accompanying the video is a workbook with individual and couple activities. For 5 weeks in childbirth classes, a new topic was introduced in a video presentation. The video was followed up by a brief in-class activity led by the childbirth instructor. The video and in-class activity took about 15 min of class time. Couples were given an activity workbook to guide more active learning at home with individual and partner exercises. The workbook was the heart of the intervention. Couples in the self-guided group were instructed to go through the program at their own pace over the next 4–6 weeks.

The childbirth educators involved in this study were receptive to the notion of including relationship education for couples as a part of their curriculum. However, they were not enthusiastic about a high-dosage intervention that required significant in-class time and energy that would compete with the traditional childbirth education curriculum. As a result, we developed Marriage Moments as a low-dosage self-guided intervention.

Similar to other programs, Marriage Moments attempts to normalize the transition to parenthood by helping couples anticipate common challenges. The change theory that undergirds this program is that participants will be more intentional (Doherty, 2001) in preparing for these changes to their relationship; marriages will be strengthened as couples become proactive in protecting and enhancing their union. Program activities encourage couples to discuss and make plans for how they will work together as they face the challenges of parenthood.

In particular, Marriage Moments seeks to strengthen the practice of marital virtues. Thus, Fowers's (2000) model of marital virtues conceptually undergirds our curriculum. (See Table 1 for a summary of the curriculum. The program also is available online at www.marriagemoments.org) The videos and workbook present five concepts: the myth of marital happiness and the four marital virtues of friendship, generosity, fairness, and loyalty. The curriculum stresses building marriage on a foundation of friendship and partnership rather than on romantic feeling. In this model, marital friendship is strengthened through a shared vision of life and

Table 1
Summary of Marriage Moments Curriculum

Week	Topic	Basic content	Sample personal activity	Sample partner activity
1	Introduction to marital virtues/myth of marital happiness	Love is more than a personal feeling of happiness. A strong marriage is based on teamwork.	Assume words like *personal happiness* and *emotional gratification* were never invented. List five other reasons why your marriage is important.	Select another couple you know who had a baby in the past year or so. Ask them questions: Before the baby was born, what changes did you expect in your relationship? What changes did you actually experience? What did you do to adjust to those changes? Then spend time as a couple discussing what you learned and what your own expectations might be.
2	Friendship	A couple develops a strong marital friendship by sharing goals and knowing each other. Curriculum emphasizes partnership rather than just having fun.	List five things that you as an individual would like to do, accomplish, or experience before you die. Then, list five things that you would like to do, accomplish, or experience with your spouse before you die.	After you have completed Personal Activity 1, come together and compare notes. Make a list together of things you would both like to do as a couple. Look at what your partner has put down as personal goals and dreams. Take the opportunity to learn more about your partner by talking about the things he or she has listed.
3	Generosity	Generosity means focusing on your partner's strengths and forgiving his or her mistakes.	List three of the things that you have been frustrated with in your spouse. Then, list five strengths or admirable qualities your spouse has next to each of those things.	After completing Personal Activity 1, sit down together. Share with each other the 15 good things you see in one another. Then promise each other not to pay attention to the 3 negative things on your list any more.
4	Fairness	Fairness means trusting your partner and working together to share the work instead of keeping track so that you only do your equal share.	Consider the following question: What makes my spouse feel like he or she can't depend on me? Now identify one specific thing you can do differently to increase his or her trust in you on this point of dependability. For this week, focus on being 100% dependable in this area.	Think of areas in which you and your spouse divide the work that needs to be done now. Talk about which activities you could actually do together and pick one that you will start sharing now as a symbol of your fairness. Then think of some of the areas you might divide when the baby comes and identify one you could do together.
5	Loyalty	In our conversations and in our priorities, we are loyal to our spouse by remembering our commitment to him or her. We are his or her first champion, and he or she is our first priority.	Next to each of the following areas, list ways this area could potentially become a problem for your marriage. Then describe a creative way that you will approach these things differently so that it doesn't detract from your marriage: leisure and hobbies, work, friends, extended family.	Create a loyal listening ritual by completing the following: Discuss what you will do to set the stage for loyal listening, what you will do to practice loyal listening, and how you will finish your ritual.

Note. More information is available at www.marriagemoments.org

important life goals; partnership is nurtured by the virtues of friendship, generosity, fairness, and loyalty. Fowers's marital virtues model is particularly applicable to a curriculum targeted to new parents who are embarking on a shared life to rear a child but are undergoing changes in their relationship that make romantic feelings and emotional gratification a frustrating standard against which to gauge the immediate health of the marriage.

The intervention logic was to strengthen couples' understanding and practice of these marital virtues to prevent or diminish relationship deterioration and ease adjustment during the stressful transition to parenthood. Researchers have identified building and maintaining friendship as a crucial component to strong marriages (Gottman, Ryan, Swanson, & Swanson, 2005; Gottman & Silver, 1999). In addition, one study suggests that a husband's marital virtues may be particularly important to a wife's sense of marital quality (Strom, 2003).

Measures

Participants reported their engagement in the Marriage Moments program and their own evaluation of the program. In addition, several individual and relationship outcome measures were included in assessment booklets to help evaluate the impact of Marriage Moments.

Program involvement and satisfaction. In evaluation studies, it is important to measure the extent to which treatment-group participants actually engaged in the prescribed treatment to accurately interpret any program impact estimates (Orr, 1999). This is important for the Marriage Moments program because the intervention was largely self-guided. We measured program participation by asking couples in the two treatment groups at Time 2 about their exposure to the curriculum (i.e., number of video segments watched or lessons read in the workbook), activities completed in the workbook, and use of supplementary material in the workbook. Because involvement in the activities was the core of the intervention—the principal means by which couples integrated information into their own marriage—participants' self-report of their typical engagement in the suggested activities for each chapter (0 = *none* to 4 = *all*) was the base of the program participation score. This figure was multiplied by a curriculum exposure score assessing the number of segments or chapters participants viewed or read (0 = *none* to 2 = *4–5 segments or chapters*). This was done to differentiate those who engaged thoroughly in activities in a few modules from those who engaged thoroughly in most of the modules. (No participants indicated that they had not watched any segments or that they had not read any of the chapters; a large majority received an exposure score of 2.) Finally, if participants made use of supplemental chapters in the workbook to enhance their learning, a value (0 = *not at all* to 2 = *a lot*) was added on to create a total involvement score. Thus, scores for program involvement could range from zero to 10. The Time 2 survey also directly asked treatment-group participants whether they thought the Marriage Moments program was helpful to them in strengthening their marital relationship (ratings were made on a scale ranging from 0 for *none* to 3 for *a lot*).

Understanding how participants reacted to the Marriage Moments curriculum is important, because a generally positive reaction likely would be necessary for the intervention to be successful. Accordingly, participants reported their satisfaction with the program by rating (on a 5-point scale) seven items: *not enjoyable*/*enjoyable*, *not interesting*/*interesting*, *not fun*/*fun*, *not important*/*important*, *not worthwhile*/*worthwhile*, *not informative*/*informative*, and *not useful*/*useful*. All seven items loaded strongly onto one factor. This scale generated a Cronbach's alpha coefficient of .90 (.92 for husbands and .88 for wives).

Marital virtues. Fowers's (2000) marital virtues model identifies friendship, generosity, fairness, and loyalty as important virtues that support marital partnership. Because no extant measure adequately capture these dimensions, we created a new measure, the Marital Virtues Profile (MVP), for this study. The 25 MVP items use a 6-point Likert scale (from 1, *almost never*, to 6, *almost always*). The items ask individuals to rate their partner's marital virtues; partner reports are likely more objective assessments than self-reports. In addition, several items on the MVP ask individuals to report on the quality of the marital partnership.

Because the MVP was a new measure and was central to the intervention, substantial psychometric analyses were conducted. More complete details of the instrument and the analyses are presented elsewhere (Hawkins, Fowers, Carroll, & Yang, 2006). In summary, confirmatory factor analyses, which tested for spousal and temporal invariance, revealed an instrument with five conceptually distinct but empirically overlapping virtue scales and a partnership evaluation scale. However, because a second-order factor structure of these scales fitted the data well and because this pilot study focuses on an overall concept of virtues rather than on specific virtues, the overall MVP scores were used. Cronbach's alpha coefficients ranged from .92 to .94 for husbands and wives for the four times of measurement. Additional analyses produced reasonable construct validity.

Marital quality and satisfaction. A measure of marital quality, the 15-item Revised Dyadic Adjustment Scale (RDAS; Busby, Crane, Larson, & Christensen, 1995), and a brief self-report of marital satisfaction (Holman, Busby, Doxey, Klein, & Loyer-Carlson, 1997) were included in the study. The RDAS is a shorter, validated version of the original Dyadic Adjustment Scale (Spanier, 1976). The RDAS is used as a total scale in clinical settings; a score less than 48 indicates relationship distress. Hence, we used a summed total scale score. Total scale reliability ranged from .81 at Time 1 (.82 for husbands and .79 for wives) to .86 at Time 4 (.84 for husbands and .87 for wives). The test–retest stability coefficient (between Time 1 and Time 2, about 8 weeks later) for the RDAS was .78 for husbands and .68 for wives.

In addition, the study included a seven-item measure of marital satisfaction from the RELATionship Evaluation (RELATE) relationship inventory (Busby, Holman, & Taniguchi, 2001), which asked participants how satisfied they were with various aspects of their relationship (e.g., physical intimacy, time together, relationship equality). The Cronbach's alpha statistics for this sample ranged from .83 at Time 1 to .86 at Time 4 for husbands and from .84 to .88 for wives. These figures are consistent with those found by Busby et al. (2001).

Adjustment to parenthood. To assess couples' adjustment to the transition to parenthood, we constructed an eight-item self-report measure, the Transition Adjustment Scale (TAS). The TAS assesses adjustments to common challenges associated with the transition to parenthood, such as the division of housework and child care, leisure, and the couple's relationship. Higher scores on a 5-point Likert scale indicate better adjustment. At Time 3 and Time 4, participants reported the degree to which these issues were problems. In an exploratory factor analyses, all items loaded onto a single factor with loadings of .50 or stronger. The overall alpha level for the scale ranged from .77 at Time 1 (for both wives and husbands) to .83 at Time 4 (.83 for wives and .82 for husbands). The TAS was positively correlated with the RDAS ($r = .40$) and negatively correlated ($r = -.22$) with depression (Center for Epidemiological Studies Depression Scale; Devins & Orme, 1985).

Results

Preliminary Analyses

Descriptive statistics for key measures. Participants at Time 1 reported relatively high scores for their spouse's marital virtues. The mean MVP total score for wives' reports of husbands was 5.10 ($SD = 0.51$), and the mean score for husbands' reports of wives was 5.00 ($SD = 0.54$; on a 6-point scale). Although there was room for some improvement and adequate variation, these relatively high scores indicate a potential ceiling effect for this variable.

Participants at Time 1 reported relatively high marital quality on the RDAS, although there was reasonable variation. The mean RDAS score for wives was 55.20 ($SD = 5.43$), and the mean score for husbands was 54.70 ($SD = 5.53$). These averages were more than one standard deviation above the mean RDAS total for distressed couples (Busby et al., 1995). Scores ranged from 31 to 66. Scores below 48 indicated distress. Of the 310 individuals in this study, 32 (10%) scored in the distressed range. Of those 32 individuals, 9 (28%) were wives and 23 (72%) were husbands. For 3 couples (2%), both spouses indicated distress. The number of marriages in which only one spouse was distressed was 29 (19% of all couples). Similarly, participants at Time 1 reported relatively high marital satisfaction. The mean RELATE satisfaction score for wives was 4.40 ($SD = 0.50$), and the mean score for husbands was 4.30 ($SD = 0.53$; on a 5-point scale). Again, these high scores indicate a potential ceiling effect, but in this case, it is less problematic because the intervention was designed to prevent relationship decline in marital satisfaction rather than create positive change.

Participants at Time 4 reported a relatively smooth adjustment to parenthood on the TAS, although there was adequate variation in the distribution of scores. Thirty percent of participants reported that they had adjusted to the changes *very well*, 54% reported adjusting *pretty well*, and 16% had adjusted *fairly well*. Only 1 person reported adjusting n*ot too well* to the changes associated with becoming a parent. The mean TAS score for wives was 3.50 ($SD = 0.66$), and the mean score for husbands was 3.50 ($SD = 0.56$; on a 5-point scale).

Group equivalence. An important point of validity in evaluation studies is establishing that treatment and control groups were equivalent on important dimensions at the beginning and end of the study. To establish group equivalence, we conducted a set of one-way analyses of variance (ANOVAs) across the one control and two treatments groups. The demographic variables tested included age, hours in employment, flexibility of hours, and education. In addition to these ANOVAs, we used chi-square analyses to look for differences in a set of demographic variables. These group equivalence analyses showed no significant demographic differences among groups. Similarly, on measures of marital virtues, marital quality and satisfaction, and transition adjustment, ANOVAs showed that groups were equivalent at Time 1. Accordingly, treatment and control groups were comparable at the beginning of the study.

Attrition. Significant attrition between Time 3 and Time 4 reduced the sample to 118 couples (24% attrition, primarily because participants moved, and we were unable to locate new addresses). These losses were relatively even across groups. (For a description of participant flow through the study, see Table 2.) Although this level of attrition in longitudinal evaluation studies is common, attrition can still bias study results. To assess whether any bias entered the study as a result of systematic attrition, we repeated the same group comparison analyses we have already reported at Time 4, with an additional group of those who left the study before its completion. In a series of analyses, we compared dropouts with full participants on Time 1 demographic and outcome measures. We found no significant differences between groups, which suggests that participant attrition likely did not systematically bias study results. In addition, because attrition occurred primarily at Time 4, we repeated these analyses comparing Time 4 dropouts with Time 3 full participants (rather than Time 1 participants). However, there were only minor group differences. Husbands who dropped out at Time 4 were less likely to be current students, and wives who dropped out at Time 4 were slightly more likely to be currently employed.

Primary Analyses

Formative evaluation. The overall goal of the Marriage Moments program was to prevent relationship deterioration during the transition to parenthood. The first set of research questions explored whether participants engaged substan-

Table 2
Participant Flow Through the Study and Cumulative Attrition

Group	No. couples				Group % attrition (Time 4)
	Time 1	Time 2	Time 3	Time 4	
IE-T	51	51	47	38	25
SG-T	55	50	49	43	22
Control	49	47	46	37	24
Total couples	155	148	142	118	
Cumulative couple attrition (%)		5	8	24	

Note. Time 1 = preassessment; before childbirth class (2–4 months before baby's birth); Time 2 = postassessment, after childbirth class (1–2 months before birth); intended treatment received; Time 3 = first follow-up, 3 months after baby's birth; Time 4 = second follow-up, 9 months after birth (analyzed for evaluation); IE-T = instructor-encouraged treatment; SG-T = self-guided treatment.

tially in the self-guided curriculum and whether childbirth instructors' direction and encouragement increased program involvement. Program involvement scores ranged from 1 to 10, with a mean of 6.51 ($SD = 2.38$). The scores fell into a distribution that was skewed slightly toward the high scores. Fifteen participants (8%) received the maximum involvement score; 21 (11%) received scores of 1 or 2. Twenty-four percent received the modal score of 8. The IE-T group's involvement score was slightly but significantly lower than the SG-T group's score (IE-T $M = 6.00$, $SD = 2.55$; SG-T $M = 7.00$, $SD = 2.09$), $t(200) = -3.20$, $p < .05$. These findings suggest that participants engaged adequately in the program, and that direction and encouragement from the childbirth instructor were not essential ingredients in motivating involvement in the program.

The next set of research questions focused on how satisfied participants were with the Marriage Moments program. Overall, as hypothesized, participants reported high satisfaction with the program and thought it was useful and worthwhile. The mean evaluation score for all participants was 4.00 ($SD = 0.67$; on a scale of 1 to 5). There was no significant difference on this measure between treatment groups (IE-T $M = 3.90$, $SD = 0.71$; SG-T $M = 4.10$, $SD = 0.58$), $F(1, 192) = 3.60$, *ns*; or between husbands and wives (wives' $M = 4.10$, $SD = 0.58$; husbands' $M = 3.90$, $SD = 0.71$), $F(1, 192) = 3.60$, *ns.* In addition, when asked whether they thought the Marriage Moments program was helpful to them in strengthening their marital relationship, participants responded positively. On a 4-point scale (1–4), the mean was almost 2.90 ($SD = 0.71$). There was no significant difference between the two treatment groups (IE-T $M = 2.90$, $SD = 0.76$; SG-T $M = 3.00$, $SD = 0.65$), $t(200) = -1.17$, *ns.* In addition, we analyzed the content of numerous evaluation comments written by program participants. The overall reaction to the program was positive. Of 256 comments made, 210 (82%) indicated a positive effect of the program. Forty-five individuals specifically indicated that the program had strengthened their marriage, often through better communication and increased understanding of the challenges couples normally face during the transition to parenthood. These evaluation results from participants, then, suggest that participants evaluated the program positively.

Outcome evaluation. The next set of analyses explored whether the Marriage Moments program was effective over time on outcome measures of marital virtues, marital quality and satisfaction, and adjustment to the transition to parenthood. We anticipated that, as a result of the program, treatment-group reports of marital virtues would increase compared with control-group reports, treatment-group scores on marital quality and satisfaction would remain relatively stable whereas control-group scores would decline, and treatment-group adjustment to parenthood would be higher than control-group adjustment. We used hierarchical linear modeling (HLM) to compare treatment and control groups over time on outcome measures. We used HLM because it could handle the data dependencies (i.e., spouses, repeated measures) and missing data from significant attrition at Time 4 more effectively than traditional ANOVA. Program effects were indicated by significant Time × Group interactions. A final set of follow-up HLM analyses tested whether specific subgroups in the sample might have benefited more or less from the Marriage Moments program. We expected that the program would be more helpful to couples with higher levels of program participation. Also, previous research suggested that the program would be more helpful to more educated couples, who may experience more disruption of their lifestyle at the transition to parenthood (Twenge et al., 2003). In addition, it was possible that the program would be more helpful to distressed rather than to nondistressed couples because they would be at greater risk for significant marital decline (P. A. Cowan & Cowan, 1990). We also predicted that couples who had been married a shorter time could be less prepared for the transition and thus would benefit more from the program.

Outcome evaluation results diverged from the positive formative evaluation results. A summary of the outcome evaluation analyses is short and straightforward. There was no pattern of significant Group × Time interactions; treatment groups did not have higher scores than the control group at Time 4 (or Time 3) on spouse reports of marital virtues, $F(6, 134.71) = 0.15$, $p = .99$. It is not surprising, then, that there was no pattern of significant Group × Time interactions on the relationship outcome measures; treatment groups were not better off at the end of the study than the control group in terms of marital quality, $F(6, 135.08) = 1.26$, $p = .28$; marital satisfaction, $F(6, 131.78) = 0.04$, $p = 1.00$; or adjustment to the transition to parenthood, $F(6, 134.77) = 0.21$, $p = .97$. The general pattern of change during the study was a decline in mean scores at 3 months after the baby's birth. The treatment groups had recovered by 9 months, but apparently this was not due to program effects, because the control group showed the same recovery. (The main effects for time were significant in these analyses. More detailed results are available from Alan J. Hawkins.) The overall pattern of nonsignificant Group × Time interactions continued with follow-up analyses exploring possible subgroup differences with covariates in the model (i.e., program involvement, marital quality/distress at Time 1, education level, years married). Thus, although formative evaluation results were positive, outcome evaluation results did not prove that the program made a difference in the relational outcomes. (See Table 3 for more statistical information related to these outcome analyses.)

Discussion

The goal of the Marriage Moments program was to strengthen marital virtues and prevent relationship decline during the transition to parenthood. Treatment-group couples who engaged substantially in the self-guided curriculum generally reported that they enjoyed the program and found it worthwhile, and many reported that the program had helped them strengthen their relationship. These kinds of formative evaluations are where most program evaluation efforts stop. This study highlights the need to go further. In the context of a research-based, carefully designed, and well-liked program, the lack of statistically significant outcome differences between groups is noteworthy. Some

Table 3
Means, Standard Deviations, and Sample Sizes on Outcome Measures for Husbands and Wives in Treatment and Control Groups

Outcome measure	Instructor encouraged			Self-guided			Control			F[a] and p
	M	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	
MVP										$F(6, 134.71) = 0.12$ $p = .99$
Husbands										
Time 1	4.95	0.59	50	5.01	0.50	54	5.03	0.52	49	
Time 2	4.95	0.67	49	5.00	0.50	50	5.00	0.59	48	
Time 3	4.79	0.57	47	4.95	0.57	48	4.87	0.60	47	
Time 4	4.77	0.50	36	4.82	0.60	42	4.85	0.57	37	
Wives										
Time 1	5.08	0.52	50	5.02	0.49	55	5.16	0.52	49	
Time 2	5.03	0.47	49	5.02	0.56	51	5.18	0.50	47	
Time 3	4.96	0.56	47	4.79	0.64	49	5.05	0.50	45	
Time 4	4.81	0.61	36	4.64	0.77	43	5.00	0.54	37	
RDAS (marital quality)										$F(6, 135.08) = 1.26$ $p = .28$
Husbands										
Time 1	54.74	5.83	50	54.11	6.28	54	55.43	5.33	49	
Time 2	55.24	6.08	49	55.40	6.04	48	56.69	5.65	48	
Time 3	50.11	5.22	47	49.96	5.50	49	50.77	5.70	47	
Time 4	52.75	5.79	36	53.12	6.27	42	54.41	6.25	37	
Wives										
Time 1	55.46	4.24	50	54.40	4.97	55	56.02	6.33	49	
Time 2	56.00	4.34	47	55.40	4.83	48	57.25	4.81	48	
Time 3	52.00	6.62	47	49.42	5.39	49	51.55	4.69	47	
Time 4	53.14	6.77	37	51.81	7.38	43	54.62	6.58	37	
RELATE Marital Satisfaction										$F(6, 131.78) = 0.04$ $p = 1.00$
Husbands										
Time 1	4.26	0.54	50	4.30	0.54	54	4.32	0.52	49	
Time 2	4.30	0.58	49	4.35	0.53	51	4.33	0.61	47	
Time 3	4.02	0.60	47	4.10	0.56	49	4.20	0.48	47	
Time 4	3.96	0.61	36	4.01	0.69	42	4.00	0.61	37	
Wives										
Time 1	4.34	0.52	50	4.34	0.49	55	4.47	0.48	49	
Time 2	4.35	0.48	48	4.29	0.54	52	4.50	0.38	48	
Time 3	4.10	0.60	47	3.94	0.66	49	4.08	0.62	47	
Time 4	3.95	0.76	37	3.80	0.80	43	4.08	0.56	38	
Transition Adjustment Scale										$F(6, 134.77) = 0.21$ $p = .97$
Husbands										
Time 1	3.49	0.47	50	3.54	0.61	55	3.58	0.58	49	
Time 2	3.54	0.61	48	3.63	0.55	51	3.64	0.59	48	
Time 3	3.38	0.60	46	3.39	0.63	49	3.56	0.55	47	
Time 4	3.79	0.65	36	3.82	0.69	42	3.92	0.60	37	
Wives										
Time 1	3.49	0.63	50	3.45	0.47	55	3.66	0.48	49	
Time 2	3.51	0.51	49	3.43	0.52	52	3.66	0.51	48	
Time 3	3.54	0.68	47	3.38	0.57	49	3.52	0.53	47	
Time 4	3.77	0.75	37	3.74	0.74	43	3.90	0.65	38	

Note. MVP = Marital Virtues Profile; RDAS = Revised Dyadic Adjustment Scale; RELATE = RELATionship Evaluation.
[a] Analyses were performed with hierarchical linear modeling, 2 (spouse) × 3 (group) × 4 (time) models.

weaknesses of the study might have affected the results. After a discussion of these weaknesses, we elaborate on the divergent findings of the formative and outcome evaluations because of their implications for those involved in psychoeducation.

The first weakness was a design problem that confounded the format (i.e., self-guided) and intensity (i.e., low dosage) of the Marriage Moments program with the content (i.e., marital virtues). Marriage Moments was designed as a public health education intervention to reach large numbers of couples rather than as an intensive psychoeducational intervention to reach a few. It put valid information in the hands of a target audience but did not supplement it with significant classroom-based instruction, activity, and interaction. The other transition-to-parenthood programs that we reviewed earlier follow a traditional psychoeducational model, with highly trained instructors and more intensive, classroom-based activity. These programs likely struggle to reach large numbers of couples. It is possible that more intensive intervention may be needed during the transition to parenthood to prevent relationship decline, and this may account for a lack of group differences in our study. How-

ever, it is also possible that the marital virtues content was ineffective. Other transition-to-parenthood programs put more emphasis on communication and problem-solving skills (Jordan et al., 1999; Shapiro & Gottman, 2005). A skills approach might be more effective than a marital virtues approach. Unfortunately, because our design confounded format/intensity and content, we cannot determine whether the self-guided format and low-dosage intensity of Marriage Moments may be insufficient to produce group differences or whether the content may be ineffective.

It is possible that the concept of a partnership or virtuous marriage was too familiar to this sample. This seems a reasonable possibility given the high marital virtues scores reported in this sample. Although the curriculum developers thought that the material was novel, it is possible that it was not. If not, then it is possible that the program did not provide treatment-group couples something unique that control-group couples did not already have. However, rather than concluding with just one test that the marital virtues curriculum is ineffective with couples transitioning to parenthood, we are inclined to believe that the format or dosage of this self-guided program was not sufficient to produce group differences.

Another potential weakness of the study, however, was that this sample was high functioning. The average marital quality (RDAS) score for the entire sample did not fall below the clinical cut-off for distress, even with a temporary dip in scores at 3 months after the baby's birth. The sample was composed largely of middle-class, educated, religious couples. Moreover, they were generally intentional about their pregnancies; more than 80% of the sample reported that they planned the pregnancy. Belsky and Rovine (1990) found that wives who experienced decline in marital quality generally had planned their pregnancies. They speculated that discrepancies between expectations and actual experience might have contributed to marital decline. In this study, participants were not ambivalent about parenthood; they came from a family-centered culture with strong pronatalist religious values (Mormon). A couple's intentionality toward parenthood may predict an easier transition.

Similarly, because of their cultural and religious values, participants in this study might have been at less risk for struggles about domestic labor and gender issues, a common difficulty during the transition to parenthood. For many Mormons, the transition to parenthood allows wives to assume what they believe is the divinely appointed role of a nurturant mother. This belief may reduce conflict around the renegotiation of family roles and thus diminish the difficulty of the transition to parenthood. In addition, many Mormons receive significant support from their religious community. This support from their congregation might have buffered participants from the early stresses of parenthood. In short, the sample for this study might have been at low risk for marital problems common to the transition to parenthood.

Program effects might be more evident with a higher risk sample. Many couples transitioning to parenthood in contemporary society now are unmarried, have low incomes and less education, and are less intentional about parenthood (Edin & Kefalas, 2005; Garfinkel, McLanahan, & Mincy, 2001). These couples face much higher risks to the quality and stability of their relationship (Edin & Kefalas, 2005). It would be instructive to test the Marriage Moments program with a more distressed sample. Other scholars have called for marriage and couple educators to give greater attention to low-income couples (Ooms & Wilson, 2004), and programs are now being tested (Dion, 2004).

Another potential weakness is that our method of assessing a key construct—marital virtues—might not be as powerful as observational measures at detecting changes in relationship outcomes over time. This was a pilot study, and the challenges of creating a new observational measure to assess marital virtues were substantial. Nevertheless, observational measures of other relationship outcomes might have been more sensitive to change. In addition, high initial scores on the MVP might have prevented much improvement as a result of the intervention.

Although these problems with the study may account for the lack of program effects, this pilot study still provides no empirical support for the effectiveness of Marriage Moments. However, if science learns as much from its failures as from its successes, then this study may have some helpful implications for psychoeducation, in particular for marriage and couples educators. First, this study suggests that implementing self-guided, low-dosage programs that can reach larger numbers of people but also be effective in strengthening marriages and couple relationships is no small task. It will take much experimentation and ongoing evaluation to find ways to make convenient, low-dosage educational offerings effective. We do not mean to discourage such efforts. Indeed, marriage and couples education will only reach a fraction of new-parent couples if researchers do not find successful ways to intervene within a public health model in addition to a traditional psychoeducational model. Developing more convenient, less intensive, lower cost interventions may be even more important for low-income couples, whose resources and schedules make participation in traditional psychoeducational programs difficult (Dion, 2004). We encourage more educators and researchers to take on this challenging task. Perhaps marriage educators could partner closely with experienced public health educators to develop more effective, less intensive interventions.

A second implication of the empirical failure of this study is that positive formative evaluation results do not necessarily translate into positive outcome evaluation results. When fiscal resources and methodological know-how are limited, getting participants' consumer satisfaction reports on a program is all many psychoeducators can do. This is not enough, however, to assert program effectiveness, perhaps especially for lower dosage programs, such as Marriage Moments. A randomized, control-group research design requires substantial effort and resources, but this study highlights the crucial need for this added work.

Some believe that marriage and couples education is a vacuous response to the challenges of forming and sustaining contemporary unions. To address this skepticism, psychoeducators need to support their claims of effectiveness with outcome data garnered from a well-designed evaluation study. Claims of effectiveness based only on program participants' ratings and reactions are insufficient. This is

not a new caveat for the field, but this study certainly underscores its importance.

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