

## Short-Term Change in Couples' Conflict Following a Transition to Parenthood Intervention

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Conflict among couples was examined following a transition to parenthood intervention to determine both short-term efficacy of the program and elucidate the process of change postintervention. A randomized clinical trial design was used to examine conflict in couples who participated in a transition to parenthood psycho-educational workshop compared with controls. The beginnings of improved communication in conflict were evident at 3 months postbirth through decreased husband contempt and increased husband positive affect during conflict in a sample that demonstrated more substantial improvement at 1 year postintervention. Increases in husband positive affect in the workshop group at 3 months postbirth predicted more positive and less negative wife affect during conflict at 1 year postbirth. Results suggest that some indicators of intervention efficacy were evident, postintervention change can be gradual, husbands may be more receptive to implementing change shortly after birth, and early changes can be associated with later positive outcomes. Findings have implications for preparing couples for the gradual and complex nature of change associated with intervention.

*Keywords:* intervention, marital communication, marital conflict, therapeutic change, transition to parenthood

Despite numerous studies examining the efficacy of various couple-focused interventions and therapeutic approaches, the process of change postintervention remains unclear. Although there is a growing body of research examining therapeutic process in couples therapy (e.g., Glebova et al., 2011; Mendes et al., 2010), studies examining the process of change

following couple-focused educational interventions are particularly limited (Bodenmann, Bradbury, & Pihet, 2008). Couples therapy and couple-focused education are distinct approaches to promoting wellbeing in couples' relationships. However, given their common focus on promoting positive relationship change, findings from each approach may inform both approaches. Thus, the limited research regarding the process of change across both approaches is reviewed. Qualitative interviews of couples receiving therapy revealed that these couples predominantly described change in their relationships as being gradual, or taking place over time rather than being something that happened instantaneously (Christensen, Russell, Miller, & Peterson, 1998). This concept of change in couple relationships taking place gradually over time is further suggested by some studies testing the efficacy of psycho-education programs that reported either small or null results shortly postintervention in samples

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that demonstrated significant improvements at later follow-up assessments (Markman, Stanley, Floyd, Hahlweg, & Blumberg, 1991; Shapiro & Gottman, 2005). These results suggest that shortly after the inception of couples therapy or psycho-educational intervention, couples may be actively grappling with relationship issues, and that the process of implementing positive relational changes may be slow and complex. The present research examines changes in the quality of couples' communication within conflict shortly after a couple-focused psycho-educational intervention to elucidate the process of change postintervention.

### Communication and the Process of Therapeutic Change

The quality of communication has been implicated both as crucial to the process of marital change, and as an important indicator of postintervention outcome. In their examination of the process of change in couple therapy, Christensen and colleagues (1998) found that couples who experienced improvement consistently mentioned communication as an important component in the changes they were able to make. Specifically, couples typically reported that it was important to them to learn to communicate with their partners regarding issues without contempt. Some couples indicated that this form of positive communication had enabled them to reconnect emotionally with their partners. Other couples also emphasized that new insights regarding their partners and their relationships were gained through improved communication. A review by Rhoades, Stanley, and Markman (2009) further reinforced the importance of communication by recommending a focus on building positive communication skills in couple relationships across forms of clinical practice to enable couples to effectively discuss issues of concern overall, and those related to commitment in particular.

Communication skills are also widely examined outcomes of interest for couple education programs, as indicated by a recent meta-analytic study that examined communication skills (e.g., decreasing contempt, criticism, and defensiveness) as one of two common outcomes reported from efficacy research regarding such programs (Hawkins, Blanchard, Baldwin, & Fawcett, 2008). Al-

though research by Gottman and colleagues has indicated that it is rare for even the most satisfied couples (or masters of marriage) to express high-level validation in conflict, there is great variation in the expression of a numerous affects that reflect both positive (affection, humor, low-level validation, joy) and negative (criticism, contempt, defensiveness, stonewalling) contributions to conflict discussions (Driver, Tabares, Shapiro, & Gottman, 2012). The current research examines the quality of couple communication skills, as reflected by expressed affect (e.g., affection, contempt, criticism), in the context of conflict. Although some marriage education programs have not yielded significant results (Hawkins, Fawcett, Carroll, & Gilliland, 2006), couple relationship education overall appears to be efficacious in improving relationship satisfaction and communication skills as reflected by moderate but significant effect sizes comparable to those of other intervention programs (Hawkins et al., 2008).

The process of change related to relationship education has been largely neglected as an area of study. One notable exception is a recent examination of within group variability among couples receiving a preventative intervention program by Bodenmann, Bradbury, and Pihet (2008). The authors indicated that positive outcomes were related to improved problem-solving during the course of the intervention, postintervention dyadic coping, and postintervention use of strategies taught by the intervention. These results suggest that the process of change in couple relationships continues beyond the administration of the intervention. This interpretation is consistent with findings from a couple of studies investigating the efficacy of couple psycho-education programs that found initial small or null results shortly postintervention in cases where significant positive outcomes were evident at later follow-up assessments (Markman et al., 1991; Shapiro & Gottman, 2005). This pattern may be even more prevalent than indicated in the literature due to a bias toward not publishing these initial null findings. Thus, shortly after receiving an intervention, couples may be actively working to implement new skills, with positive outcomes not always being evident shortly postintervention, but evident later on.

### The Transition to Parenthood

Couples becoming parents go through a period of challenging adjustment characterized by declining marital satisfaction (Shapiro, Gottman, & Carrère, 2000; Cowan & Cowan, 2000), declining partner supportiveness (Howard & Brooks-Gunn, 2009), compromised communication, and increased conflict (Belsky & Kelly, 1994; Huston & Holmes, 2004). These relationship difficulties are problematic not only for the couple, but also for overall family functioning, because marital discord has been associated with problematic coparenting (Curran, Hazen, & Mann, 2009; McHale, 1995, 2007), impaired parenting (Erel & Burman, 1995; Shapiro, 2005), and negative child outcomes (Cummings & Davies, 2002; El-Sheikh et al., 2009).

Indeed, some interventions have successfully focused on strengthening couple relationships to promote positive child development based on strong and consistent associations between marital discord and child outcome (Cummings & Merrilees, 2010). The intervention examined in the current study targets couples during the transition to parenthood because it is an important period for promoting positive family formation.

### Gender Differences

Substantial research has demonstrated gender differences in communication style, particularly within the context of negotiation or conflict. A classic pursuer–distancer pattern has been identified to describe different patterns of communication within conflict, where women pursue active discussion regarding relationship issues and men avoid or withdraw from these discussions (Ball, Cowan, & Cowan, 1995; Christensen & Heavey, 1990; Gottman & Silver, 1999). This male avoidance or withdrawal from conflict appears to be related to men's expectations of partner negativity and destructive rather than constructive consequences of the negotiation (Ward, Bergner, & Kahn, 2003). Findings of recent research examining the way men and women communicate regarding desired changes are consistent with this pattern, indicating that women were more negative than men in conversations regarding both changes they desired and changes proposed by their male partners (Heyman, Hunt-Martorano, Malik, & Slep, 2009).

There are also indications that the process of change over transition periods may be different for women and men. Wives appear to have more positive marital satisfaction trajectories than their husbands over the first four years of marriage (Lavner & Bradbury, 2010). However, wives who become mothers also appear to have a more significant decline in marital satisfaction over the transition to parenthood (Shapiro, Gottman, & Carrère, 2000). Additionally, different areas of husband and wife improvement during the course of intervention have been associated with later improved outcomes (Bodenmann et al., 2008). Because of gender differences evident in both communication patterns and the process of change, husband and wife variables are examined separately in the current investigation.

### The Bringing Baby Home (BBH) Workshop

The intervention of focus in the current investigation was the Bringing Baby Home psycho-educational workshop (Gottman, Gottman, & Shapiro, 2010). The workshop focused on four goals: (a) maintaining and strengthening couples' intimacy, (b) changing conflict patterns so they became more constructive, (c) facilitating father involvement in the family, and (d) promoting positive parenting and coparenting to facilitate optimal infant development. The current study focuses on the first of these goals. This intervention took a multilevel approach to promoting the formation of positive family relations due to parents' relations with each other and with their children being conceptualized as intrinsically interrelated.

The workshop curriculum was based on empirical research findings that discriminated couples whose marital satisfaction declined in the first three years of the first baby's life from couples whose marital satisfaction did not decline, which had practical implications for what may help couples and families develop positive communication and relationship dynamics (e.g., Cummings & Davies, 2002; Shapiro, Gottman, & Carrère, 2000). The presentation of workshop material was organized using the Gottman Sound Relationship House theory, which conceptualizes effective communication regarding conflict as building on a firm foundation of positive aspects of the relationship (Gottman & Silver, 1999). Aspects of a firm relationship

foundation include: mutual awareness, fondness, appreciation, and responsiveness in daily communication. Content most closely related to effective communication in the context of conflict include: the following using softened start-up, conflict management, and regulation in solvable and perpetual problems; recognizing and avoiding hostile affect in communication; and physiological self-soothing during conflict. Promoting positive communication was a central theme of all aspects of the workshop. Recognizing and avoiding the use of contempt was a particular focus in the section regarding hostile communication during conflict because it has been highlighted in research as corrosive and predictive of divorce (see [Gottman, 1994](#); [Driver et al., 2012](#)). Couples were encouraged to openly engage in discussions regarding disagreements, and to communicate in a respectful manner rather than putting down their partners. Thus, couples were expected to continue or increase their level of engagement in discussion of disagreements, but to show improvements in communication within the context of conflict.

The Bringing Baby Home intervention has demonstrated efficacy in promoting less competitive coparenting at three months postbirth ([Shapiro, Nahm, Gottman, & Content, 2011](#)) and both maternal and paternal mental health and positive couple relations at one year postbirth. Although significantly less hostile communication in conflict was evident in this research for both husbands and wives at one year postbirth, the trajectories of change suggested less improvement at three months postbirth, particularly for wives who appeared to actually have a slight increase in hostile communication shortly postintervention and postbirth ([Shapiro & Gottman, 2005](#)).

### The Current Study

The present investigation extends our previous research by specifically examining (a) both positive and negative aspects of communication in the context of conflict at our first postintervention assessment, and (b) associations between any early improvements and outcomes at one year postbirth. Because of our particular focus on contempt in the intervention and its corrosive nature in relationships, we examined contempt as a specific aspect of negative communication where couples may show improve-

ments in advance of other areas. By examining this period when couples appear to be actively grappling with incorporating intervention material into their relationships, we aim to elucidate the process of change postintervention. We hypothesized that early indicators of improvement would be evident in some aspects of couple conflict at the first follow-up assessment. Additionally, any significant positive changes between baseline and the first follow-up were hypothesized to predict later positive outcomes at 1 year postbirth.

## Method

### Participants

In 1999, 38 expectant and new parents were recruited from the Puget Sound area in Washington. Couples were recruited through birth preparation classes at the Swedish Medical Center in Seattle, and through interest in the study generated by an article in the *Seattle Times*. Couples were eligible for the study if they were expecting a baby at the time of recruitment, married, and both the husband and wife were over 18 years old. Eligible couples were invited to participate in a three-year longitudinal study examining the effectiveness and timing of a workshop we developed for couples becoming parents. Although the primary focus of the current research was on the transition these families made from our first baseline visit with them through our first follow-up at three months postbirth, follow-up analyses included data from an assessment at 1 year postbirth.

The sample approximated the demographics of Seattle in that it was predominantly a Caucasian middle class sample with ethnic diversity consistent with, but not exactly equal to, the City of Seattle's Planning Report ([City of Seattle Planning Department, 1990](#)) demographic study. Specifically, the racial and ethnic distribution of our sample included 12% Asian American couples, 5% Hispanic American couples, and 5% of other non-Euro American background (African American, Native American, or Hawaiian Islander). The majority of couples were expecting their first child ( $n = 36$ ), and two couples were expecting a second child. Thirty-two couples were pregnant at the time of their first visit, and six had given birth to a baby during the three weeks before their first visit.

The average husband age was 35.4 years old ( $SD = 6.0$ ), and the mean age for wives was 32.5 ( $SD = 4.3$ ). Both the average husband and wife had completed a college degree, with some wives and husbands having completed some college but not completed a degree, and some having completed a graduate degree. Although couples were not admonished to not engage in therapy, support groups, or other educational programs while participating in this intervention study because of human subjects considerations, their participation in such activities was assessed throughout the study, and no significant differences were found between groups.

The average wife marital quality at the time of recruitment as measured on the Locke–Wallace (Locke & Wallace, 1959) Marital Adjustment Test was 120.21 ( $SD = 22.35$ ), and the average husband marital satisfaction was 117.59 ( $SD = 19.94$ ). These scores reflect the relatively high marital satisfaction that would be expected in a sample of pregnant couples expecting their first baby based on previous research (Shapiro, Gottman, & Carrère, 2000). There was 13% attrition in this sample over the first 15 months couples were followed from pregnancy to 1 year postbirth. Specifically, two families dropped out of the study because of family illness, one dropped because of scheduling conflicts, and we were not able to locate one additional family after they had moved.

## Procedures

**Experimental design.** The present study utilized a randomized clinical trial experimental design in which couples were randomly assigned to either a workshop group or a control group. Couples assigned to the control group were given a workshop at the end of the time they were followed, when the children were 3 years old. Specifically, 18 couples were assigned to the workshop group, and 20 couples were assigned to the control group. No significant differences between groups were found in any of the demographic data examined.

**BBH workshop format and administration.** The BBH workshop consisted of a combination of lectures, exercises, videos, and role-play exercises. The role-plays were used to demonstrate specific concepts, and the exercises gave couples the opportunity to actively practice material they were learning in the workshop. A

manual was created for the workshop to organize content and systematize potential future workshop administration. Copies of the manual, as well as materials created for the exercises, were given to workshop participants to facilitate ongoing practice of newly learned communication skills. Couples received the intervention either during pregnancy or shortly after the birth of their baby.

The workshop was administered at the Swedish Medical Center in Seattle by John and Julie Gottman, who are both clinical psychologists and the developers of the workshops. Administration of the workshop took place over the course of a weekend in a hospital setting where birth preparation classes were conducted. The hospital setting was considered optimal because we believe it would be ideal to integrate family focused transition to parenthood interventions into the birth preparation system. Because only one workshop was conducted, and it was administered by the developers of the workshop, there was no need to oversee fidelity of implementation. However, videotapes of the workshop were reviewed to confirm that program material was communicated as outlined in the manual. Additionally, the investigators checked in with workshop participants during the exercises to ensure that couples were correctly understanding workshop material and successfully implementing the instructions for the exercises. Although intervention couples were compliant in attending and participating in the workshop overall, one couple was not able to attend the workshop because of going into labor prematurely. The couple was given workshop materials and reviewed a videotape of the workshop before the first follow-up assessment.

**Repeated measures.** The current study examines assessments of couple relationships at baseline, three months postbirth, and 1 year postbirth. Couples engaged in a discussion of a disagreement and filled out questionnaires at each time point. Research visits were conducted with couples in their homes for their convenience. The first, baseline, assessment was conducted during the third trimester for the majority of couples, with six visits being conducted within the first three weeks after the baby's birth. In all cases the baseline assessment was conducted before workshop administration, and the first follow-up visit was conducted after the intervention. The timing of the three months

postbirth assessment ranged from several weeks to several months postintervention.

**The Marital Adjustment Test (MAT).** The MAT, developed by Locke and Wallace (1959), is a reliable and valid measure used to index marital satisfaction. It is one of the most prevalently used measures of marital satisfaction, and is closely related to the Dyadic Adjustment Scale (Spanier, 1976), which was derived from the MAT. Higher scores on the MAT represent greater marital satisfaction. Cronbach alphas were .72 for husbands and .80 for wives at baseline, reflecting acceptable construct reliability. Although several of the items on the MAT tap into global marital happiness, six of the items ask couples to rate how much they agree or disagree on various issues. These six disagreement items were summed to create a composite disagreement score reflecting the degree to which couples report disagreement. Cronbach alphas were .73 for husbands and .78 for wives, reflecting acceptable construct reliability.

**Marital conflict procedure.** During each research visit, couples were asked to complete the Couple's Problem Inventory (Gottman, Markman, & Notarius, 1977), which measures the severity of various marital problems. Items include standard marital problem areas such as in-laws, finances, and sex. Each item was rated on a scale from 0 to 100, with higher scores signifying that the problem is considered more severe. The researcher facilitating the home visit then reviewed the results of this questionnaire with couples to reflect on the issues they rated as most problematic, and to help them choose several issues to use as the bases for a discussion of a disagreement. This process of interviewing couples about their areas of disagreement helps to insure that they have identified a clear, current, and emotionally salient area to discuss. After choosing topics for the discussion, couples were asked to discuss their chosen topics for 15 minutes. Portable High-8 Sony Video Cameras were used to videotape these discussions, and couples were asked to sit facing each other at a 45-degree angle such that both the husband and wife could be seen clearly for coding in one camera view. Once the camera was rolling, staff left the room during the discussion of a disagreement.

**Observational coding.** The Specific Affect Coding System (SPAFF; Gottman, McCoy, &

Coan, 1996; Shapiro & Gottman, 2004) was used to code the couples' communication in the context of conflict. The coding system was used to index specific affects expressed during a conflict discussion. Although the SPAFF codes are described as tapping into specific affect, they also reflect quality of communication. The contributions to the discussion were categorized based on speech content, vocal tone, and facial expression (based on Ekman and Friesen's Facial Action Coding System; Ekman & Friesen, 1978). The SPAFF includes five positive codes (interest, validation, affection, humor, joy), 10 negative affect codes (disgust, contempt, belligerence, domineering, anger, fear/tension, defensiveness, whining, sadness, stonewalling), and one neutral code reflecting neither clear positive nor clear negative expressions. The negative affect codes and positive affect codes were summed to create two composite variables for each spouse at each time point. The total positive affect, total negative affect, and contempt codes were the focus of examination in the current study. Contempt was of particular interest because it is considered highly corrosive and is predictive of divorce (Gottman, 1994). Contempt involves insulting one's partner (e.g., putting someone down verbally) but it can be expressed facially (muscle buccinator dimpling the cheek through a left lip corner lateral action, and/or an accompanying eye roll), or communicated verbally through sarcasm and mockery.

Observational coders were a combination of research staff and undergraduate students who were trained to use the SPAFF coding system through an in depth training program involving video review and trial coding over the period of a semester to establish baseline reliability. Graduate students working with John Gottman facilitated the training process. Eighty percent of the conflict discussions were coded by two independent observers using a computer-assisted coding system that automated the collection of timing information; each coder noted only the onset of each code. A time-locked confusion matrix for each discussion was then computed using a 1-s window for determining agreement of each code in one observer's coding against all of the other observer's coding (see Bakeman & Gottman, 1986). The Cohen's unweighted Kappa gives a chance-corrected measure of agreement between two coders assuming that there is an equal probability of any

behavioral code being used. However, it is possible for a set of coders to have high agreement but a low Kappa in cases where there is one predominant code. The free marginal Kappa corrects for this problem (Brennan & Prediger, 1981). A Kappa was calculated at the end of each interaction coded and only Kappas above a 0.6 were accepted, or the video was recoded by two other coders. The average free marginal kappa for the entire study was an acceptable level of 0.80.

The diagonal versus the diagonal-plus-off-diagonal entries in these matrices also entered into a repeated measures analysis of variance. We computed the Cronbach alphas for each code as the ratio of the mean square for observers minus the error mean square and the mean square for observers plus the error mean square (see Bakeman & Gottman, 1986). The Cronbach's alpha reliability coefficients ranged from .65 to .99, with the average Cronbach's alpha being .91.

## Results

### Data Analytic Plan

Intent-to-treat analyses were performed in that couples were not removed from analyses due to difficulties with compliance. Repeated measures analysis of variance (ANOVA) was used first to examine change in communication within conflict from baseline to the first intervention follow-up at three months postbirth in the workshop group compared with the control group. Treatment group was entered as the between group variable, and time of assessment was entered as a within group variable. Obtaining intervention group by time interaction effects were of particular interest because they would indicate difference in change across groups. The following variables were examined using repeated measures ANOVA: total positive affect, total negative affect, contempt, and reported disagreement. Husband and wife data were examined separately due to their contributions to conflict being considered theoretically distinct.

Multiple linear regression was then used to predict conflict communication within the workshop group at the one year follow-up from the change in conflict from baseline to the first follow-up. Because the current research aimed

to examine short term change, difference scores were created reflecting change between baseline and the three months postbirth variables in cases where significant time by group effects were found. These difference scores were the independent variables entered into the multiple linear regression model. The examination of difference scores has been discussed as a valid method for analyzing change over time (Gottman, 1995), and is used in a number of standard statistical procedures such as within group *t* tests. The best explanatory model was found through the process of backward elimination. Because regression is particularly susceptible to outliers, a Cook's distance (Cook's D) was computed and cases were removed from the analyses if the Cook's D was greater than 1.0 (Norusis, 2000). All reported alpha values are two-tailed.

### Missing Data Replacement

Because data were missing for only five families, and were considered missing at random, data were imputed using regression based on the available observational coding available for that family. This imputation method is considered reliable and acceptable when less than 15% of data are missing (Shrive, Stuart, Quan, & Ghali, 2006).

### Changes From Baseline to the First Postintervention Follow-Up

**Contempt.** Repeated measures ANOVA yielded a significant time by group interaction effect for husband contempt,  $F(1, 36) = 3.97$ ,  $p = .05$ ;  $\eta^2 = .10$ , reflecting a significant decrease in expressed contempt from baseline to the first follow-up for husbands in the workshop group ( $M = -2.56$ ) compared with controls ( $M = 2.56$ ), who expressed increased contempt over time (see Figure 1). The main effect for husband contempt over time (across groups) and the main effect for husband contempt in the workshop group were not significant.

The time by group interaction effect for wife contempt approached significance,  $F(1, 36) = 3.42$ ,  $p = .074$ ;  $\eta^2 = .10$ , suggesting a decrease in expressed contempt from baseline to the first follow-up for wives in the workshop group ( $M = -1.55$ ) compared with controls ( $M = 13.78$ ), who expressed increased contempt over time. The main effect for wife contempt over

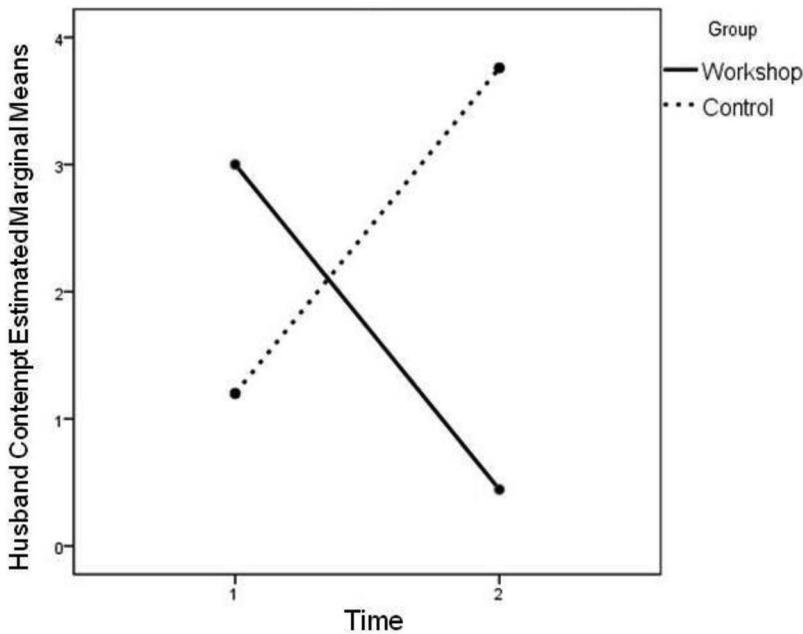


Figure 1. Change in husband contempt in conflict from baseline to 3 months postbirth.

time and the main effect for wife contempt in the workshop group were not significant.

**Total negative affect.** None of the statistical tests examining total negative affect for yielded significant findings. Specifically, the following effects were not significant: the time by group effect for total husband and wife negative affect, the main effect for husband and wife total negative affect over time, and the main effect for intervention group.

**Total positive affect.** There was a significant time by group effect for husband total positive affect,  $F(1, 36) = 6.39, p = .02; \eta^2 = .15$ , reflecting a significant increase in the positive communication from baseline to the first follow-up for husbands in the workshop group ( $M = 14.72$ ) compared with controls ( $M = -8.95$ ), who exhibited a decrease in positive affect over time (see Figure 2). The main effects for time and group were not significant for husband total positive affect. The main effects for time, group, and the time by group interaction effect were all non significant for wife total positive affect.

**Reported disagreements.** There were significant main effects for time of reported disagreements, reflecting a significant increase in

reported disagreements postbirth across groups for both husbands ( $M = 2.28, F(1, 36) = 4.78, p = .04; \eta^2 = .12$ ) and wives ( $M = 2.50, F(1, 36) = 10.22, p = .003; \eta^2 = .22$ ). The main effect for group and the time by group interaction effects were not significant for reported disagreements for either husbands or wives.

**Explaining conflict at one year postbirth from early postintervention change.** Because the decrease in husband contempt and increase in husband total positive affect were significant from baseline to the first follow-up, difference scores for these variables were computed and examined as predictors of outcome variables at one year postbirth. Because the wives did not show any significant differences at three months postbirth, the focus of these analyses was on predicting outcomes for the wives at one year postbirth from the early significant changes seen for husbands. The increase in husband total positive affect in conflict from baseline to the first follow-up significantly predicted higher total wife positive affect at one year postbirth ( $R = .60, R^2 = .35, F(1, 16) = 8.17, p = .012$ ). The early decrease in husband contempt did not significantly contribute to the predictive model. Change in husband total pos-

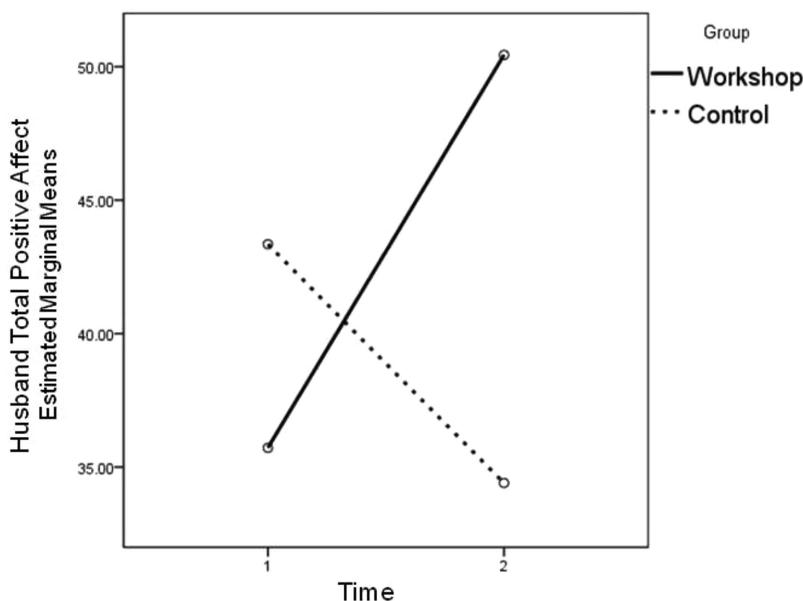


Figure 2. Change in husband total positive affect in conflict from baseline to 3 months postbirth.

itive affect from baseline to the first follow-up significantly predicted total wife negative affect at one year postbirth ( $R = .48$ ,  $R^2 = .23$ ,  $F(1, 16) = 4.47$ ,  $p = .05$ ), with change in husband contempt again not contributing to the predictive model. Initial increases in husband total positive affect were associated with lower wife total negative affect at the later time point ( $\beta = -.48$ ).

### Discussion

Although not as distinct as results at one year postbirth indicating decreased overall hostility in conflict for both husbands and wives receiving the BBH psycho-educational workshop (Shapiro & Gottman, 2005), the beginnings of positive change in communication were evident at three months postbirth through husband decreased contempt and increased positive affect during conflict. These results in combination with null findings for wife communication and overall husband negative affect at the first postintervention follow-up suggest that intervention related change in communication is gradual and complex. It is likely that couples were actively struggling to implement the new communication skills they were taught through

the intervention into their discussions of disagreements, but that mastering these new skills in the context of emotionally laden conflict may have been difficult and time consuming. This interpretation is consistent with findings from other psycho-educational efficacy research indicating delayed onset of improvement in couple relationships.

Research from the field of couples' therapy may also inform the interpretation of these findings regarding the process of couple relationship change postintervention. Specifically, research by Christensen and colleague indicates that the process of change is reported as being gradual by couples in relationship therapy (Christensen et al., 1998) is relevant in that it is consistent with the current findings.

Initial postintervention progress being evident for husbands' but not wives' communication suggests that husbands are more receptive to implementing change in response to intervention material shortly postbirth. This makes sense given that transition to parenthood research indicates that having a baby has a bigger impact on wives (see Belsky & Kelly, 1994; Huston & Holmes, 2004). These new mothers typically experience a significant decline in marital satisfaction (Shapiro, Gottman, & Car-

rère, 2000) as well as sleep deprivation (Cowan & Cowan, 2000). In the midst of grappling with the challenges of becoming a new mother it may be more difficult for wives to successfully master new communication skills in the context of conflict, particularly during the first few months postintervention and postbirth. Although men may be more receptive to relationship education during the transition to parenthood, this greater male receptivity is not true in general given that Hawkins and colleagues (2008) did not find gender differences in a meta-analysis examining marriage education overall.

As expected, findings indicated a significant increase in reported disagreements for both groups from baseline to three months postbirth. This is consistent with research indicating that conflict typically increases over the transition to parenthood (Belsky & Kelly, 1994), and our intervention approach, which encouraged open and respectful engagement in discussions regarding disagreements. These findings suggest that improvements in communication within conflict and perceived areas of disagreement do not necessarily go hand in hand. Furthermore, an increase in areas of disagreements, or conflict discussions, may not be unusual when actively working on implementing new communication strategies in the context of conflict. After all, the workshop's goals act to decrease conflict avoidance, and therefore initially increase the amount of conflict couples decide to face.

Findings from the current research suggest that early postintervention changes are associated with later positive outcomes. This was reflected by the fact that early increases in husband positive affect from baseline to three months postbirth predicted more positive and less negative affect during conflict for the wives at one year postbirth in the intervention group. Indeed, this early increase in husband positive affect accounted for 35% of the variance in later wife positive affect, reflecting positive contributions to the conflict discussions. These early improvements seen in the husbands may be partially responsible for later improvements seen in wife affect during conflict. In other words, wives may eventually respond more positively and less negatively to their husbands' positive contributions to communication. This may be taking place in addition to, or instead of, wives explicitly implementing workshop mate-

rial into their conflict discussions. This interpretation is consistent with findings indicating that a husband's views regarding his spouse and relationship predict later wife marital satisfaction over the transition to parenthood (Shapiro, Gottman, & Carrère, 2000).

There are also indications from the current research that positive contributions to communication may be particularly important, both in reflecting early change and in predicting later improvement. Findings that the initial increase in husband positive affect predicted later wife communication suggest that positive communication may be particularly important in promoting both more positive and less negative communication. This is consistent with the Sound Relationship House theory, which posits that effective conflict related communication skills (e.g., decreased contempt, criticism, defensiveness and withdrawal) builds on a solid foundation of positive aspects of the relationship. The superior predictive ability of increased positive affect, in contrast to decreased contempt, may also be attributable to the greater significance and stronger association between increased husband positive affect and intervention group shortly postintervention. This suggests that it may be easier to improve positive aspects of relationships than to reduce negative ones, particularly in the short term.

### Limitations and Future Research

The sample size, although comparable with the Cowan and Cowan's (2000) intervention, is nonetheless quite small. The effect sizes reported in the current research are moderate to large given that the eta squared statistic is analogous to  $R^2$ , and Cohen (1988) considers anything above .14 to be a large effect size. Given the strength of the associations reflected by these effect sizes, it is possible that more significant associations would have been evident with a larger sample. The results of the multiple regression analyses in particular should be interpreted with caution (despite the moderate effect sizes) on account of the sample being considered small for multivariate analysis. Thus, replication is recommended. Despite our attempt to match our sample to Seattle's demographics, greater diversity both ethnically and socioeconomically is also needed to better understand the process of change related to inter-

vention in the context of diversity and adversity. Finally the current research is limited in its ability to examine the nature of intervention-associated change as a result of assessments being conducted at only a few discrete time points. Greater detail regarding the process of change in couple relations during the early postintervention period may be revealed by research utilizing daily diaries methods or weekly assessments over the first several weeks postintervention.

## Implications

Findings from the present research have implications for preparing couples for the gradual and complex nature of change associated with couple-focused psycho-educational interventions. These findings may have implications for couples receiving therapy as well as those participating in marriage education programs given that this research focuses on the process of change in couple relationship functioning, which is the mutual goal of these two distinct approaches. Educating couples regarding the nature of change they can anticipate may aid in promoting couple compliance, both in ongoing participation in intervention or therapy, and in persevering to implement intervention material. Acknowledgment that decreases in overall perceived conflict do not always go hand in hand with making progress in communicating positively within conflict may help couples to not become discouraged. Furthermore, communicating that initial improvements may be most evident in positive aspects of communication, and that any early improvements can be related to later positive outcomes, may help couples better recognize and appreciate any initial improvements and to build on them.

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