Forgiveness-Reconciliation and Communication-Conflict-Resolution Interventions Versus Retested Controls in Early Married Couples

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The first 6 months of marriage are optimal for marriage enrichment interventions. The Hope-Focused Approach to couple enrichment was presented as two 9-hr interventions—(a) Handling Our Problems Effectively (HOPE), which emphasized communication and conflict resolution, and (b) Forgiveness and Reconciliation through Experiencing Empathy (FREE). HOPE and FREE were compared with repeated assessment controls. Couples were randomly assigned and were assessed at pretreatment (t1); 1 month posttreatment (t2) and at 3- (t3), 6- (t4), and 12-month (t5) follow-ups using self-reports. In addition to self-report measures, couples were assessed at t1, t2, and t5 using salivary cortisol, and behavioral coding of decision making. Of 179 couples who began the study, 145 cases were analyzed. Both FREE and HOPE produced lasting positive changes on self-reports. For cortisol reactivity, HOPE and FREE reduced reactivity at t2, but only HOPE at t5. For coded behaviors, control couples deteriorated; FREE and HOPE did not change. Enrichment training was effective regardless of the focus of the training.

Keywords: couple enrichment, forgiveness, reconciliation, conflict resolution, communication

Most adults in the United States marry, and yet about half of marriages end in divorce (National Center for Health Statistics [NCHS], 2002; U.S. Census Bureau, 2006). Marriages are particularly at risk for divorce during the early years (Kurdek, 2002). A first marriage has a 20% chance of ending in the first 5 years (NCHS, 2002). Potential contributing factors to divorce include failure to (a) develop positive, enriching behavior patterns and (b) repair damage to a couple's emotional bond when transgressions occur (Fincham & Beach, 1999; Halford & Snyder, 2012).

Counseling psychologists often intervene in relationships to help improve their quality and prevent problems (Halford & Bodenmann, 2013). Congruent with values of counseling psychology, couple enrichment is a positive and growth oriented. Enrichment interventions offer advantages over couple therapy. First, few distressed couples receive help before their relationships are seriously damaged. Johnson et al. (2002) found that only 19% of married couples received any couple therapy. Of those who had filed for divorce, only 37% received therapy services beforehand. Second, when couples did receive therapy, few were treated with evidence-based treatments (Johnson et al., 2002). Third, more couples currently receive relationship education than receive couple therapy (Stanley, Amato, Johnson, & Markman, 2006). Fourth, from a public policy standpoint, couple interventions seem to be increasingly directed toward enrichment and prevention rather than therapy (Markman & Rhoades, 2012). Such initiatives place counseling psychologists strategically to develop fundable enrichment interventions.

As one reads the literature on helping couples, one can be bewildered by the many labels and goals of programs. There are interventions that show that problems can be prevented. Those tend to have long follow-ups to demonstrate prevention. Strictly speaking, our study is not prevention. Some treatments are couple therapy for existing problems. Other interventions are aimed at relationship education, knowledge, or awareness. A. J. Hawkins, Blanchard, Baldwin, and Fawcett (2008), in a meta-analysis, labeled many treatments marital and relationship education, including ones aimed at skill building, training, and education. They included programs that aim to enhance relationships, prevent problems, and build strengths. Fawcett, Fawcett, Hawkins, and Yorgason (2013) have measured virtues in couple education and couple therapy.

We aim to build skills that will help couples have stronger marriages in the future and also prevent problems (but we do not rely on relationship *education* as merely conveying information). We choose a critical point in a marriage to promote skills—after the initial adjustment and within the first year of marriage—to deliver our intervention (see Lavner, Bradbury, & Karney, 2012). Premarriage and very early marriage can be resistant to intervention that implies a couple has "problems." But after the first 6 months of marriage or cohabitation, most couples realize they need to adjust to marriage and can learn skills to enhance their relationship and prevent future problems (for a meta-analysis, see A. J. Hawkins et al., 2008). Lavner, Bradbury, and Karney (2012) found that many couples—especially those with high initial satisfaction—maintained stable marriages over the 4 years, but less satisfied couples during their first 6 months declined quickly after the early part of marriage.

Research on Relationship Education Programs

The consensus among researchers who study newlyweds is that, without treatment, mean relationship quality tends to decline in satisfaction and stability over time (Lavner & Bradbury, 2010); however, most agree that not all couples decline. Thus, some marriage enrichment programs are aimed at the vulnerable first few years of marriage. Married couples who seek enrichment, especially newlyweds, typically begin treatment at higher levels of relationship quality than those in couple therapy, which suggests a potential ceiling effect on outcomes in enrichment research. Despite this, enrichment programs have been found to be effective (Blanchard, Hawkins, Baldwin, & Fawcett, 2009; A. J. Hawkins et al., 2008; Jakubowski et al., 2004).

Although outcome studies of marital enrichment have generally shown positive findings, there are limitations to this research (Markman & Rhoades, 2012). First, most couple interventions do not tailor interventions to fit specific needs of couples, that is, lower socioeconomic and African American couples (cf. A. J. Hawkins & Fackrell, 2010). Second, methodological problems—(a) small sample sizes, (b) weak comparison conditions (e.g., wait-list control conditions), (c) reliance on only self-report measures, and (d) no follow-up data—have limited conclusions. Third, couple intervention studies have generally tested the treatment as a whole, not treatment components. Fourth, couple interventions have not investigated mechanisms of change. Skills training programs have championed training in communication and conflict resolution skills, claiming that the acquisition of these skills makes an intervention effective. Meta-analyses show that five to six sessions of communication-based skills training usually improves relationships (Blanchard et al., 2009; A. J. Hawkins et al., 2008), and these changes in communication are maintained after completion of the education program (cf. a 3-year study by Rogge, Cobb, Lawrence, Johnson, & Bradbury, 2013, which revealed *increases* in communication problems over time after communication training). Fincham and Beach (1999) and others (e.g., Halford & Snyder, 2012) have questioned the effectiveness of acquisition of skills as primary agent of change. Fincham and Beach (1999) suggested that strengthening the emotional bond was responsible for good relationships. This suggests that teaching newlywed couples how to form, strengthen, and repair damage to their emotional bond might be crucial to enhanced relationships. Communication interventions that effectively strengthen emotional bonds by helping couples forgive and reconcile offenses could potentially be a strong enrichment intervention (Fincham, Hall, & Beach, 2005). Of the few enrichment programs that have incorporated forgiveness interventions, interventions tend to be brief (see Gordon, Baucom, & Snyder, 2005). Fincham et al. (2005) cautioned that brief interventions to promote forgiveness might not have a clinically meaningful impact on early marriages, which is consistent with recent critiques (McNulty & Fincham, 2012) and meta-analyses of forgiveness interventions (Wade, Hoyt, Kidwell, & Worthington, 2014). In the present study, we study the efficacy of two components of the Hope-Focused Couple Approach (see Ripley & Worthington, 2014), which includes communication and forgiveness training.

Hope-Focused Couple Enrichment (HFCE)

In the present study, we test one of the major components of HFCE (i.e., communication and conflict resolution training; Handling Our Problems Effectively [HOPE]) against a second component (i.e., forgiveness and reconciliation, called Forgiveness and Reconciliation

through Experiencing Empathy [FREE]). We included the third component, initial assessment and feedback (Worthington et al., 1995), within HOPE. Theoretically, HFCE drew eclectically from integrative behavior therapy (Jacobson & Christensen, 1996), Haley's (1976) problem-focused family therapy, Minuchin's (1974) structural family therapy, deShazer's (1988) solution-focused therapy, and emotionally focused couple therapy (Greenberg & Johnson, 1988). Clinical research has, until recently, been conducted on secular samples using a secular version of the Hope-Focused Approach (Worthington et al., 1997; for a review, see Jakubowski, Milne, Brunner, & Miller, 2004). Recently, Ripley et al. (2014) have conducted a randomized clinical trial with Christian couples. They found no differences between a Christian-accommodated version and secular version with Christian couples.

The HFCE is configured so that its intervention techniques can be used in any dosage desired (Ripley & Worthington, 2014). Jakubowski et al. (2004) listed HFCE as one of four empirically supported couple enrichment interventions. In the present study, we compared 9 hr of intervention techniques from FREE (including the REACH Forgiveness module; Worthington, 2006) with 9 hr of HOPE, which teaches communication and conflict resolution. We compared both interventions with couples receiving no treatment.

HOPE

HOPE used a consultant manual to focus couples on the communication and conflict resolution (see www.hopecouples.com for the manuals). Couples were taught that it is better to learn strong communication and conflict resolution skills early in the marriage before serious problems develop than to try to repair entrenched problems; furthermore, learning to communicate better can foster a more satisfying and intimate marriage. As part of HOPE, an assessment provided couples an initial written feedback report with assessment data and recommendations for improving their marriage (Worthington et al., 1995). In subsequent sessions of HOPE, consultants taught couples to express themselves, listen actively, resolve differences, and break free of conflict. Consultants used therapeutic (not information-centered) methods (i.e., teaching, modeling, coaching, feedback, and guided practice). The final session included a written report to the couple with summaries of progress, recommendations about improving their marriage, and advice about next steps.

FREE

FREE used a manual to focus on forgiveness and reconciliation (see www.EvWorthington-forgiveness.com for the manuals). Couples learned that repairing damage to the emotional bond is crucial for promoting happiness, communication, and intimacy. Namely, problems are inevitable, and healthy relationships require couples to forgive and reconcile. Participants were taught to forgive using the five steps to the REACH Forgiveness (Worthington, 2006).). Partners each practiced using a past event (prior to their own relationship) to learn the REACH Forgiveness method while the spouse supported. Then partners applied the method to the transgressions in their current marriage. REACH is an acrostic in which each step cues memory. R = Recall the hurt without blame or portraying oneself as a victim. E = Empathize with the offender one. A = Altruistic gift-giving of undeserved forgiveness to the offender. C = Commit to the forgiveness one experiences. H = Hold onto forgiveness if one doubts one

has forgiven. Partners were taught to reconcile using the bridge to reconciliation (Worthington, 2006), which teaches how to confront perceived transgressions, confess wrongdoing, and express forgiveness.

Ripley and Worthington (2002) tested interventions in a psychoeducational group format with married couples from the community. HFCE was divided into two 5-hr components that paralleled the treatments in the present study but were less comprehensive. Couples (N = 43) were randomly assigned to (a) HOPE, (b) FREE, or (c) assessment-only control and were assessed pre- and postintervention and at a 1-month follow-up. HOPE produced positive change in the ratio of positive to negative coded behavioral communications relative to FREE and control. On self-report measures of marital quality, HOPE and FREE did not differ.

In the present study, we increased the duration of each intervention to 9 hr and followed couples for longer than 1 month postintervention. Groups of couples are difficult to manage, especially long-married couples. Their discussions of offenses are often entrenched. We had couples meet individually with a consultant rather than as a group of couples. We also treated over a longer time period because meta-analyses (see Wade et al., 2014) have consistently revealed that (a) time in treatment is strongly related to outcome and (b) treatment in groups and couples has not produced as strong an effect per hour as has individual counseling. We also gave a battery of self-report measures, coded videotaped behaviors more thoroughly, and used salivary cortisol as a measure of stress response relative to Ripley and Worthington (2002). Our 9-hr intervention was pilot tested on 20 randomly assigned couples by Burchard et al. (2003), who found that FREE and HOPE produced changes in the couples' self-reported quality of life relative to couples in the assessment-only condition.

Purpose of the Present Study

The purpose of the present study was to examine, using a randomized clinical trial, the efficacy of two treatments (HOPE and FREE) relative to controls. We used a multimodal assessment of couple outcomes involving (a) self-reports of general relationship quality, communication, and forgiveness-related variables; (b) coded videotaped behavioral observations for positive or negative affect expression and escalation in couple communication—a method that has recently become preferred over traditional micro-analyses (see Lorber, 2006)—and (c) salivary samples screened for cortisol—a steroid hormone commonly assessed to measure physiological stress responses (Hellhammer, Wust, & Kudielka, 2009).

Communication or forgiveness skills training may teach couples not only skills but also how to reduce interpersonal stress (Blanchard, Hawkins, Baldwin, & Fawcett, 2009). Cortisol has been used as a marker for stress in marriage (Kiecolt-Glaser et al., 2003). Berry and Worthington (2001) developed a protocol to assess marital stress by having partners imagine an interaction that they believed typified their marriage. Increases in cortisol from pre- to postimagery (i.e., cortisol reactivity) were found within 5 min for troubled but not happy partners. We hypothesized that training in communication and conflict resolution (i.e., HOPE) or forgiveness and reconciliation (i.e., FREE) might affect level of salivary cortisol.

In the present study, following the protocol that had been pilot tested by Burchard et al. (2003), we investigated four hypotheses. First, we hypothesized that,

• HOPE and FREE would show improvement relative to retested controls on self-reported relationship quality.

• HOPE would be superior to FREE on self-reported communication (see Ripley & Worthington, 2002), and FREE would be superior to HOPE on forgiveness and empathy;

• on behavioral measures of communication, HOPE would show better outcomes than FREE, and both would show better outcomes than the controls;

• for changes in cortisol reactivity, HOPE and FREE would exceed controls, because both treatments likely would decrease stress responses through different mechanisms.

Method

Participants

Of 179 newly married couples (from their first 6–9 months of marriage) who were randomly assigned and showed up for the first assessment (t1), 145 supplied data at least twice and were considered participants in the study. The CONSORT flow chart is provided in Figure 1. Data were analyzed for participants in HOPE ($n = 47$), FREE ($n = 49$), and assessment only ($n = 49$). Participants were Caucasian (78%), African American (16%), and other ethnicities (6%). The mean age was 29.6 years. Of the participants, 19% had been divorced previously.
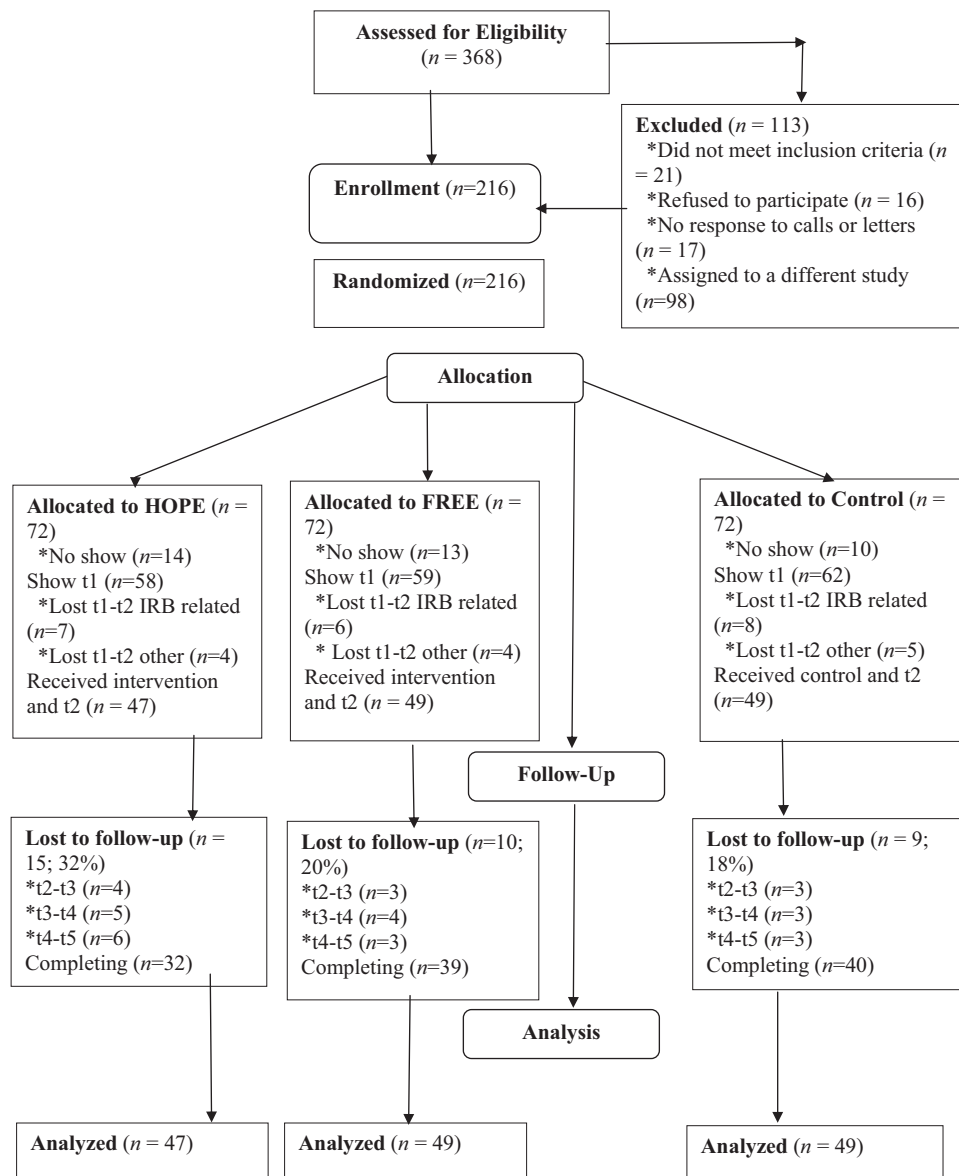

Figure 1. The CONSORT flowchart. HOPE = Handling Our Problems Effectively; t1 = pretreatment; t2 = posttreatment; IRB = Institutional Review Board; FREE = Forgiveness and Reconciliation through Experiencing Empathy; t3 = 3-month follow-up; t4 = 6-month follow-up; t5 = 12-month follow-up.

Marriage consultants. Consultants ($N = 62$) who administered the interventions included (a) one post-doctoral faculty member in Counseling Psychology, (b) 16 master's and 14 doctoral students in American Psychological Association-accredited programs in Clinical and Counseling Psychology, and (c) 27 post-master's and four doctoral staff counselors who were in full-time clinical practice from two community counseling agencies.

Design

The experimental design was a 3 × 5 (S) (Condition [FREE, HOPE, assessment-only control] × Time [S]) randomized controlled trial experiment with five repeated measures. Couples were assessed at pretreatment (t1); just over 1 month posttreatment (t2; $M = 5.3$ weeks); and at approximately 3- (t3), 6- (t4), and 12 months (t5) posttreatment using self-reports. For analysis of cortisol and behavior ratings, which were assessed only at t1, t2 and t5, the experimental design was 3 × 3(S).

Interventions

We described the HOPE and FREE 9-hr treatments tailored to couple enrichment earlier. These were manualized (see www .EvWorthington-forgiveness.com). Training was provided by Worthington, who originated the interventions. A licensed clinical psychologist who had experience conducting the HFCE intervention supervised those who provided treatment.

Self-Report Measures

Dyadic Adjustment Scale (DAS; Spanier, 1976). The DAS has four subscales, including Dyadic Consensus (13 items), Dyadic Cohesion (five items), Dyadic Satisfaction (10 items), and Affectional Expression (four items), rated on varying response scales. The seven sections have different styles of items and different response options. The range of full-scale scores is from 0 to 151. Higher scores reflect better adjustment. Spanier (1976) reported evidence supporting its content, criterion-related, and construct validities, and Cronbach's $\alpha = .96$ for the full scale. In the present sample, alphas for the DAS ranged from .88 to .91 across assessments.

Index transgression. During the first assessment, an index transgression was identified. It was a specific, severe hurt or offense inflicted by the partner—the most serious hurt the partner had sustained that involved residual hurt and lingering unforgiveness. Participants recalled, described, and wrote a summary of it. On the four subsequent assessments, reproductions of the person's initial description were shown to the person, who rated current feelings. At each assessment, participants completed the Transgression-Related Interpersonal Motivations Inventory, and the Batson Empathy Adjectives regarding that index transgression.

Transgression-Related Interpersonal Motivations (TRIM; McCullough, Root, & Cohen, 2006) Inventory. We measured participants' forgiveness motivations toward their spouse with McCullough et al.'s (2006) TRIM Inventory. The TRIM consists of 18 items rated from 1 = *strongly disagree* to 5 = *strongly agree*. The TRIM consists of three correlated subscales. The seven-item TRIM-A measures motivation to avoid a transgressor (e.g., "I live as if he/she doesn't exist, isn't around"). The five-item TRIM-R measures motivation to seek revenge (e.g., "I'll make him/her pay"). The six-item TRIM-B measures benevolent motivations toward a transgressor (e.g., "Even though his or her actions hurt me, I have goodwill for him/her"). All subscales had Cronbach's alphas over .85, moderate temporal stability (e.g., 8-week estimated temporal stability $rs = \sim.50$), and evidence supporting convergent and discriminant construct validity (McCullough & Hoyt, 2002; McCullough, Luna, Berry, Tabak, & Bono, 2010). Item response theory modeling has shown that the 18 items of the TRIM can be summed to form a reliable, unidimensional total score (McCullough et al., 2010). Higher scores on the TRIM indicate less forgiving interpersonal motivations toward a transgressor (i.e., more unforgiving motivations). Construct validity of the TRIM total score has been supported through correlations of *lower* TRIM total scores with higher relationship commitment, higher relationship value, lower exploitation risk, higher trait empathy, higher trait forgivingness (Berry & Worthington, 2001), and higher perceived agreeableness of a transgressor (Tabak & McCullough, 2011). In the present sample, alphas for the TRIM total scores ranged from .80 to .90 across assessment periods.

Batson's Empathy Adjectives (Batson, Bolen, Cross, & Neuringer-Benefiel, 1986). Batson's Empathy Adjectives have been used to measure situational empathy for a specific target person. A sample item is, "I feel compassionate toward my partner." We modified the wording of the instructions for the present study to ask participants to think about their spouse as the target person and the index transgression. Participants rated each of eight emotions on a six-point scale (from 0 = *not at all* to 5 = *extremely*) as to the degree to which they were currently experiencing the emotion toward their offender due to the index transgression. The scale has estimated internal consistency ranging from .79 to .95 (Batson et al., 1986). Moderate correlations have been found between the scale and measures of dispositional empathy, social perspective taking, and helping behavior (Batson et al., 1986). Alphas ranged from .93 to .94 across assessments.

Negative adjectives rating the spouse. Compiled for the present study, these 19 adjectives were not tied to the transgression but, at a different level, to the partner. Each adjective described current negative affect toward the partner (e.g., frustrated, resentful, and upset, and [reversed scored] satisfied, calm, etc.), rated from 0 = *none* to 4 = *intense* (range = 0–76). The psychometric properties of the items were examined in a separate pilot study of 210 participants (105 married couples). Cronbach's alpha was .94; corrected item-total correlations ranged from .25 to .85. Construct validity of the adjective scale was supported by correlations with Batson's Empathy Adjectives ($r = -.52$), the TRIM-18 ($r = .30$), and the DAS total score ($r = -.38$). The items demonstrated acceptable fit to the Rasch model for rating scales, which supports the unidimensionality of the scale. In the present sample, alphas for negative adjectives ranged from .92 to .95 across assessments.

Communication Assessment (CA; Stuart, 1983). The CA is a 13-item scale from the Couple's Pre-Counseling Inventory (Stuart, 1983). Spouses rated themselves and their spouses on the frequency of communication behaviors and their satisfaction with the quality of their communication. Items were rated on a 5-point rating from 1 = *almost never* to 5 = *almost always*. Higher scores reflect stronger communication. Stuart (1983) reported a correlation of .55 with the DAS, supporting construct validity, and an

alpha of .90. In the present sample, alphas ranged from .81 to .85 across assessments.

Behavioral Rating Measures

At t1, t2, and t5, each couple engaged in two 5-min discussions about (a) a decision and (b) an activity they enjoyed together. The same order was always used. We coded the discussion of the decision. We followed that discussion by the pleasant activity so that any conflict generated in discussion (a) might be modulated by the pleasant discussion in (b). Videotapes of the discussion concerning the decision were transcribed, de-identified, and encrypted to disguise time period. Each transcript was rated by two of four post-master's doctoral students using a coding manual. Five-point ratings were made (from 0 = *none* to 4 = *a great deal*) for (a) level of positive affect expressed for husband and wife and (b) level of negative affect for each and (c) positive and negative escalation of affect within the couple. After each couple's discussions were coded, the coders met for recalibration. Cohen's kappa was .93 across pairs of ratings. Means of partner levels of positive and negative affect expressions and escalation ratings were used as our positive and negative interaction outcomes.

Salivary Cortisol Measures

Though stress response through the hypothalamus-pituitary-adrenal axis is complex, measuring cortisol through biomarkers found in saliva is frequently used and generally considered a reliable measure of physiological adaptation to stress (Hellhammer et al., 2009). Concentrations of salivary cortisol reflect changes in level of cortisol in the blood within about 2 min (Kirschbaum & Hellhammer, 1992). Levels are sensitive to diurnal variation (almost all of our community-based couples were assessed at night) and other variations (such as time of menstrual cycle, which we did not control). The protocol was developed by Berry and Worthington (2001). Partners rested while they completed questionnaires for about 1 hr. Then partners were taken to separate rooms and relaxed as deeply as possible, without moving or fidgeting (for about 10 min). They chewed a chemically treated cotton-swab Salivette® (Sarstedt) for 30 s. They then imagined a *typical conversation* representing their relationship with their spouse. After 4.5 min of imagery, they chewed a second Salivette® for 30 s. This yields a conservative estimate of cortisol reactivity; although cortisol begins to rise upon the onset of stress, it typically takes 15 or more minutes to reach maximum levels. Samples were stored in a subzero freezer and delivered to a General Clinical Research Center for analysis by radioimmunoassays (Diagnostic Products Corporation). The samples were chemically assayed to determine the amount of cortisol (in pg per dl). This permitted a baseline measure of resting cortisol (thought to be a measure of chronic stressfulness with high-resting cortisol levels indicating high overall stressfulness), and a measure of change in level of cortisol from imagining a typical conversation with the partner (i.e., *cortisol reactivity*, with high changes in level being thought to be a measure of marital stressfulness) for each partner at each assessment. Evidence for validity of the method as related to forgiving is provided in Berry and Worthington (2001) and Tabak and Mc-Cullough (2011).

Procedure

Recruitment. Participants were recruited through advertisements in newspapers and on the radio. The participants received a monetary incentive for participation in both testing and attending consultation sessions. Participants phoned the experimental site. Those who met criteria (i.e., married for between 6 and 9 months), not in psychological treatment, or not reporting any violence in the relationship were randomized to condition depending on order of calls. Couples who were assigned to an intervention condition were told that they would be assessed by an independent assessment team five total times within about 1.5 years and would meet conjointly with a marriage consultant for 9 hr in four weekly sessions. Couples who were assigned to the control condition were told that they would be assessed five times to examine changes in relationship quality over the first 18–24 months of marriage.

Assessment session. At the initial session, couples provided informed consent to the assessment team, which did not involve the marriage consultants. Couples were videotaped engaging in two 5-min discussions about (a) a decision to be made and (b) something they enjoyed doing together. Then participants were separated. They rested 10 min while they completed demographic and personal (nonrelationship-oriented) questionnaires. They were then taken to different rooms, and they relaxed alone for 30 min under instructions to imagine calming and pleasant scenes. In the separate assessment rooms, each partner gave a baseline and, 4.5 min later, saliva sample. Couples then completed individual questionnaires.

Consultant training. The originator of the HFCE intervention trained marriage consultants. Consultants were given summaries of the approaches and taught to use consultant manuals and cue sheets. Training took 6 hr—three for FREE, three for HOPE.

Assignment to marriage consultant. Attempts were made to assign each marriage consultant to *both* a HOPE and a FREE couple, but that was not always possible. Order was counterbalanced for the consultants. Half saw the HOPE couple first, and half saw the FREE couple first. We attempted to equalize allegiance factors by training all consultants in both interventions. We sought to maintain fidelity of treatments through random assignment of couples to treatment and to ensure compliance with the protocols through fidelity checks described below. Of the 62 consultants, 26 met with two couples (one HOPE, one FREE); three met with four couples (two HOPE, two FREE; counterbalanced across pairs); one met with eight couples (four HOPE, four FREE; counterbalanced across pairs); and 32 met with one couple (15 seeing a HOPE couple and 17 seeing a FREE couple).

Consultations. After couples completed baseline (t1) assessments, consultants contacted their randomly assigned couples, explained the study, and arranged meetings.

Treatment fidelity. Each session was audiotaped. Two trained raters independently fast forwarded audiotapes of every session to a random spot at least 30 min into each session and listened to 10 min of the audiotaped session. They rated each segment on the degree to which the session was congruent with the appropriate manual at least 7 of the 10 min (i.e., 0 = *does not meet criterion*; 1 = *uncertain as to whether criterion is met*; 2 = *meets criterion*).

Additional assessment sessions. After the couple completed the intervention, the assessment team leader contacted the couple

by phone and scheduled and monitored subsequent assessment sessions in accordance with the research protocol. With the exception of a few unsolicited disclosures by couples, the assessment team was unaware of treatment condition.

Data Analysis

Missing data. Couples were included in the present analyses if they completed at least two time points in the study. Overall, of 179 couples, 111 completed all five assessments and 145 completed at least two assessments and were analyzed. Our analyses using maximum likelihood estimation in latent growth modeling made use of all available data for these couples.

Self-report outcomes. Treatment effects for self-report scales were tested with latent growth curve modeling using robust maximum likelihood estimation implemented in Mplus Version 5.21 (Muthén & Muthén, 2007). On the basis of on a structural equation modeling framework, latent growth models describe change over time in terms of latent intercepts and latent slopes, which can be treated as random variables differing between individuals. Unlike analysis of variance methods, latent growth models estimated with maximum likelihood procedures incorporate all available data into the estimation process (rather than requiring listwise deletion or imputation), which is an advantage in longitudinal research with dropouts and intermittent missing data.

The structure of the growth models for all self-report outcome variables (forgiveness, negative affect, communication, empathy, and dyadic adjustment) is shown in Figure 2. In initial exploratory analyses, quadratic effects were included in the models for each outcome. There were no significant quadratic effects, so all final models are linear growth curve models as shown in Figure 2. In these models, a common intercept is estimated for the treatment conditions, and slopes are regressed on intercepts to adjust for any effects of initial status on rate of change. The two intervention conditions (FREE and HOPE) were dummy coded (0 or 1), and the slopes of the growth trajectories were regressed on the treatment indicators ("Slope on FREE" and "Slope on HOPE" in statistical tables); these regressions are the primary parameters of interest in the analyses, indicating potential differential growth trajectories for the treatment conditions relative to the control condition. In all growth models, time was coded 0, 1, 3, 6, and 12 over the five measurement occasions so that intercepts reflect initial levels at baseline, and subsequent numbers reflect months posttreatment.

Residuals between adjacent measurement times were allowed to covary, and these covariances were constrained to be equal across time periods. In all models, intercepts were treated as random effects and slopes as fixed effects (in most analyses, the inclusion of random slopes resulted in convergence problems or latent variable covariance matrices that were not positive-definite). Thus, the final models are random-intercept linear growth models. We adjusted for all estimated standard errors for partner dependencies on outcome measures. The correlations between spouse outcomes at each measurement occasion were positive, ranging from small to moderate in magnitude (see the Results section), so a conservative adjustment to growth model standard errors was advisable.

Videotaped couple interactions. Latent growth models were also estimated for ratings of couple videotaped interactions (positive interactions and negative interactions). These growth models were similar to the basic structure shown in Figure 2, but only three time points were used in these models (baseline, 1 month posttreatment, and 12 months posttreatment). Errors were treated as independent in order to achieve model convergence.

Cortisol reactivity. A latent growth model was used to assess treatment effects on salivary cortisol reactivity to relationship imagery. As described above, at each assessment occasion, salivary cortisol was measured first after a brief resting period (preimagery assessment), then again after participants imagined recent
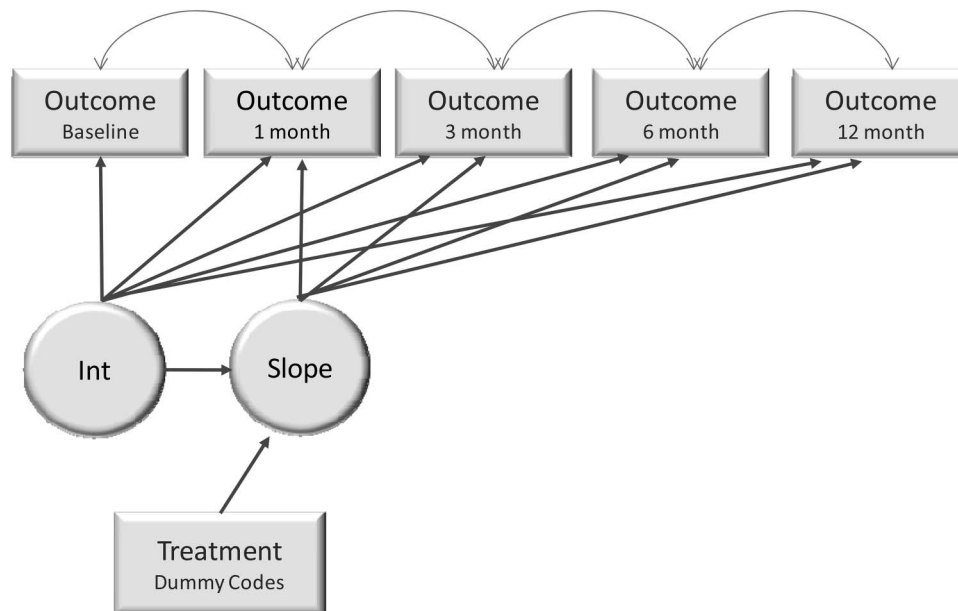

Figure 2. Latent growth model structure for self-report outcomes. Int = Intercept.

"typical" interactions between themselves and their spouse (postimagery assessment). In the growth models, postimagery cortisol measures were regressed on treatment variables and on preimagery cortisol measures (i.e., preimagery cortisol was treated as a time-varying covariate). Unlike the self-report and behavior rating models, the model for salivary cortisol reactivity had significant quadratic effects. Therefore, the final latent growth model for the cortisol measures included a random intercept and fixed linear and quadratic slopes. The regression of the slope on intercept in this model had to be fixed at 0 to avoid a nonpositive-definite covariance matrix.

Results

Self-Report Outcomes

In Table 1, we present descriptive statistics for self-report measures (by treatment condition) at each measurement occasion. The last column shows the Pearson correlations between spouse outcome variables at each measurement occasion. To test for group differences in baseline status, our preliminary growth models regressed intercepts on treatment conditions. Controls differed significantly from both treatment conditions on TRIM and empathy scores, from FREE on negative affect, and from HOPE on communication. These differences (at least $p < .05$) were all in the direction of more favorable initial status for the control condition. Because of this imbalance at baseline, our final growth models (see

Figure 2) regressed slopes on intercepts, which estimates and adjusts for initial status effects on growth parameters.

Treatment effects on general relationship quality (Hypothesis 1). The results for the growth model for general relationship quality (i.e., dyadic adjustment) are displayed in Table 2. For overall DAS scores, HOPE had a significant positive slope relative to the control; the slope for FREE did not differ significantly from that of the control. The modeled trajectories indicate declining DAS in the control condition, slightly declining DAS in FREE, and slightly increasing DAS in HOPE. Effect sizes based on modeled mean differences for the treatment conditions relative to controls at the 12-month endpoint were $d = .18$ for FREE and $d = .31$ for HOPE. We also conducted an endpoint analysis by regressing the treatment conditions on change from baseline to the 1-year follow-up assessment. Unlike the latent growth models, which are based on all available data, the endpoint analysis excludes participants who dropped out of the study before the follow-up. In this analysis, unstandardized regression coefficients for the treatment conditions represent the difference in change relative to the control. The regressions revealed a significant improvement for the HOPE condition ($B = 3.85$, $SE = 1.95$, $t = 1.98$, $p < .05$), but the FREE condition only approached significance ($B = 3.26$, $SE = 2.05$, $t = 1.95$, $p = .10$).

Treatment effects on self-reported forgiveness and communication (Hypothesis 2). The results of the latent growth curve models for outcomes related to the target hurt are shown in Table 2. There was a difference in slopes in TRIM scores for FREE relative to controls (supporting Hypothesis 2); the slope for HOPE

Table 1
Descriptive Statistics for Self-Report Outcomes at Each Assessment by Treatment Condition

Variable	Time	FREE			HOPE			Control			Couple r
		n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	
Dyadic adjustment	T1	98	115.7	12.46	94	116.6	11.36	97	120.6	9.07	.51
	T2	98	118.5	11.11	94	118.9	9.96	97	119.8	9.16	.55
	T3	94	118.0	11.58	94	117.5	11.75	96	120.3	9.87	.60
	T4	78	118.4	8.12	71	118.6	11.79	79	120.1	9.43	.52
	T5	78	116.1	12.53	64	117.7	12.06	78	118.3	12.33	.66
TRIM	T1	90	27.2	7.33	90	28.0	7.84	92	23.8	5.53	.15
	T2	89	24.8	6.39	90	26.3	5.99	90	25.0	5.93	.28
	T3	85	26.2	7.18	88	26.8	7.05	91	24.6	5.82	.10
	T4	73	23.6	4.48	65	26.1	6.22	70	25.4	10.18	.11
	T5	72	25.6	7.09	60	25.9	6.76	71	27.0	12.47	.21
Empathy	T1	90	31.9	10.84	89	32.3	9.64	92	37.0	8.93	.24
	T2	89	34.6	9.62	90	33.2	11.00	90	36.5	9.32	.17
	T3	85	32.5	10.49	88	31.7	10.55	91	34.0	10.51	.20
	T4	73	33.1	9.19	64	31.0	11.42	70	34.4	10.61	.30
	T5	71	32.4	9.90	59	33.6	10.91	71	34.0	9.93	.13
Negative affect	T1	88	46.7	13.73	88	46.1	13.47	90	38.8	13.11	.19
	T2	89	41.0	13.17	89	41.1	14.04	88	40.8	13.26	.24
	T3	84	41.6	13.43	88	42.7	14.26	89	41.4	14.29	.31
	T4	73	40.2	12.93	66	40.1	12.87	69	38.5	12.71	.26
	T5	72	39.8	14.05	60	41.5	14.79	70	39.8	13.74	.22
Communication	T1	92	53.2	5.75	93	53.3	6.48	97	56.3	5.24	.37
	T2	96	55.5	5.54	93	55.2	7.23	97	55.8	5.47	.30
	T3	94	55.0	5.20	94	54.1	5.98	96	55.3	5.39	.27
	T4	77	54.4	4.99	70	54.1	5.79	79	55.7	5.62	.43
	T5	78	54.4	5.66	64	55.0	5.74	77	56.2	5.83	.44

Note. Couple *r* is the correlation between spouse measures, reflecting within-couple dependencies on self-report scales. FREE = Forgiveness and Reconciliation through Experiencing Empathy; HOPE = Handling Our Problems Effectively; TRIM = Transgression-Related Interpersonal Motivations.

Table 2

Estimates of Latent Growth Models of Outcomes Related to Models of a Target Hurt, General Marital Outcomes, Coded Videotaped Couple Interactions, and Cortisol Reactivity

Variable	B	SE	t	χ^2	CFI	RMSEA
Models of general marital outcome (self-report)						
Dyadic adjustment				34.0**	.97	.062
Int.	118.6	0.71	166.9***			
Var. (Int.)	76.4	12.2	6.25***			
Slope on Int.	−0.001	0.01	−0.08			
Slope on FREE	0.17	0.16	1.01			
Slope on HOPE	0.29	0.15	1.97*			
Models of a target hurt (self-report)						
Unforgiveness (TRIM)				19.6	.94	.030
Int.	25.8	0.36	72.6***			
Var. (Int.)	17.2	4.08	4.22***			
Slope on Int.	−0.04	0.03	−.30			
Slope on FREE	−0.26	0.12	−1.99*			
Slope on HOPE	−0.22	0.12	−1.82†			
Empathy (Batson)				17.7	.99	.025
Int.	33.9	0.55	62.0***			
Var. (Int.)	43.5	7.32	5.95***			
Slope on Int.	0.01	0.02	0.48			
Slope on FREE	0.29	0.15	1.96*			
Slope on HOPE	0.32	0.15	2.06*			
Negative affect				29.5*	.94	.058
Int.	43.4	0.75	56.2***			
Var. (Int.)	75.9	11.9	6.38***			
Slope on Int.	0.01	0.02	0.32			
Slope on FREE	−0.44	0.22	−1.97*			
Slope on HOPE	−0.21	0.20	−1.03			
Model of self-reported communication						
Communication				25.9	.97	.047
Int.	54.8	0.32	172.6***			
Var. (Int.)	16.1	2.07	7.78***			
Slope on Int.	0.01	0.01	1.22			
Slope on FREE	0.03	0.08	0.34			
Slope on HOPE	0.13	0.07	1.97*			
Models of coded videotaped couple interactions						
Negative interactions				5.12	.98	.054
Int.	2.83	0.05	57.9***			
Var. (Int.)	0.15	0.05	3.09**			
Slope on Int.	−0.01	0.02	−0.04			
Slope on FREE	−0.02	0.01	−2.09*			
Slope on HOPE	−0.02	0.01	−1.96*			
Positive interactions				7.54	.91	.096
Int.	3.03	0.05	64.07***			
Var. (Int.)	0.12	0.05	2.34*			
Slope on Int.	0.01	0.03	0.31			
Slope on FREE	0.03	0.01	1.98*			
Slope on HOPE	0.03	0.01	2.10*			
Models of salivary cortisol						
Postimagery cortisol				5.88	.99	.025
Int.	−0.01	0.01	−1.89			
Var. (Int.)	0.00	0.01	0.54			
Preimagery cortisol t1	1.06	0.05	18.7**			
Preimagery cortisol t2	0.87	0.03	33.1**			
Preimagery cortisol t3	0.83	0.03	26.6**			
Linear slope on FREE	−0.01	0.01	−2.47*			
Linear slope on HOPE	−0.01	0.01	−2.27*			
Quadratic slope on FREE	.001	0.00	2.52*			
Quadratic slope on HOPE	.001	0.00	2.31*			

Note. CFI = comparative fit index; RMSEA = root-mean-square error of approximation; Int. = latent intercept; Var. (Int.) = variance of intercept; Slope on Int. = regression of latent slope on intercept (degree to which slope depends on initial status); Slope on FREE and Slope on HOPE = regression of latent slope on treatment (indicates treatment effect on change); FREE = Forgiveness and Reconciliation through Experiencing Empathy; HOPE = Handling Our Problems Effectively; TRIM = Transgression-Related Interpersonal Motivations; Preimagery cortisol is the regression of postimagery cortisol measures on preimagery cortisol measures at each assessment period; t1–t3 = Time 1–Time 3.

† $p < .10$.   * $p < .05$.   ** $p < .01$.   *** $p < .001$.

approached significance ($p < .10$; supporting Hypothesis 2). The modeled trajectories of TRIM scores for the conditions indicate an increase in unforgiving motivations over time for controls but slight decreases in TRIM scores for both treatments. Endpoint effect sizes were $d = .43$ for FREE, $d = .37$ for HOPE. The regressions of treatment on TRIM change from baseline to 1-year follow-up revealed a significant decrease in unforgiveness relative to controls for both HOPE ($B = -6.19$, $SE = 2.06$, $t = -3.01$, $p < .01$) and FREE ($B = -4.93$, $SE = 1.95$, $t = -2.53$, $p < .05$).

For empathy (for one's spouse), both FREE and HOPE had different slopes relative to controls (not consistent with Hypothesis 2). The modeled trajectories for empathy indicate that empathy declined over time for the controls condition but remained stable for both interventions. Endpoint effect sizes were $d = .41$ for FREE and $d = .45$ for HOPE. The regressions of treatment on empathy change from baseline to 1-year follow-up revealed a significant increase in empathy relative to controls for both HOPE ($B = 5.23$, $SE = 1.97$, $t = 2.65$, $p < .01$) and FREE ($B = 4.75$, $SE = 1.86$, $t = 2.55$, $p < .05$).

For negative affect scores, the slope for FREE was different from controls; the slope for HOPE was not different from controls. Both findings were consistent with Hypothesis 2. The modeled trajectories indicate an increase in negative affect for controls and decreases in negative affect for the treatments, though only the trajectory for FREE differed significantly from controls. Endpoint effect sizes were $d = .42$ for FREE and $d = .20$ for HOPE. The regressions of treatment on change in negative affect from baseline to 1-year follow-up revealed a significant decline in negative affect relative to controls for both HOPE ($B = -5.53$, $SE = 2.75$, $t = -2.01$, $p < .05$) and FREE ($B = -8.47$, $SE = 3.02$, $t = -2.80$, $p < .01$).

Results of growth models for self-reports of couple communication are shown in Table 2. For couple communication, HOPE had a significantly greater slope relative to controls, but the slope for FREE did not differ significantly from that of controls (which supported Hypothesis 2). Communication scores increased for HOPE but decreased for controls and FREE. Endpoint effect sizes

were $d = .06$ for FREE and $d = .30$ for HOPE. The regressions of treatment on change in communication from baseline to 1-year follow-up were not significant for either HOPE ($B = 1.45$, $SE = 1.04$, $t = 1.39$, $p = .16$) or FREE ($B = 1.53$, $SE = 0.99$, $t = 1.54$, $p = .12$). Thus, although the growth modeling of communication with all available data revealed a significant difference in linear trend in HOPE relative to controls (indicating an increase in communication compared with a decline in controls), the level of change by follow-up among completers was not different from controls. This discrepancy between the trend analysis and endpoint analysis might be explained in part by the lower statistical power in the endpoint change analysis (which excludes dropouts).

Treatment Effects on Ratings of Couple Videotaped Interactions (Hypothesis 3)

Descriptive statistics for the videotaped interactions are shown in Table 3. Results of growth models for ratings of couple videotaped interactions (positive interactions and negative interactions) are shown in Table 2. The slopes of both FREE and HOPE on both positive and negative interactions differed from slopes of controls. For negative interactions, controls increased over time, whereas HOPE and FREE remained stable over time. Endpoint effect sizes were $d = .69$ for FREE and $d = .51$ for HOPE. For positive interactions, controls declined sharply but were stable (or slightly increasing) for the interventions. Endpoint effect sizes were $d = .83$ for FREE and $d = .83$ for HOPE. For both, HOPE performed consistently with Hypothesis 3, but FREE performed better than hypothesized. The regressions of treatment on change in negative and positive interactions from baseline to 1-year follow-up were consistent with the growth model analyses. There was a significant decline in negative interaction relative to controls for both HOPE ($B = -0.30$, $SE = 0.14$, $t = -2.21$, $p < .05$) and FREE ($B = -0.27$, $SE = 0.13$, $t = -2.08$, $p < .05$). There was a significant increase in positive interaction relative to controls for both HOPE ($B = 0.31$, $SE = 0.16$, $t = 1.98$, $p < .05$) and FREE ($B = 0.30$, $SE = 0.15$, $t = 2.20$, $p < .05$).

Table 3

Descriptive Statistics for Behavioral and Physiological Outcomes at Each Assessment by Treatment Condition

Behavior rating	Time	FREE			HOPE			Control			Couple r
		n	M	SD	n	M	SD	n	M	SD	
Negative interactions	t1	38	2.62	.63	29	2.92	.59	30	2.97	.33	—
	t2	38	2.81	.53	29	2.80	.67	30	2.93	.44	—
	t5	37	2.65	.61	29	2.86	.64	28	3.14	.45	—
Positive interactions	t1	38	3.10	.45	29	2.92	.63	30	3.02	.38	—
	t2	37	3.08	.51	29	2.90	.67	30	3.13	.61	—
	t5	36	3.15	.39	29	3.01	.62	27	2.91	.47	—
Cortisol measures											
t1	Pre	98	.107	.079	94	.130	.140	95	.115	.095	.26
	Post	98	.103	.081	94	.131	.164	95	.108	.089	.14
t2	Pre	98	.097	.073	93	.094	.071	96	.100	.078	.32
	Post	98	.087	.060	91	.083	.059	96	.096	.074	.34
t5	Pre	96	.097	.070	91	.091	.061	96	.098	.072	.51
	Post	96	.091	.064	92	.087	.059	95	.089	.065	.46

Note. Behavior ratings are assessed at the couple rather than the individual level. Couple r is the correlation between spouse measures, reflecting within-couple dependencies on self-report scales. FREE = Forgiveness and Reconciliation through Experiencing Empathy; HOPE = Handling Our Problems Effectively; t1–t5 = Time 1–Time 5; Pre = preimagery measure; Post = postimagery measure. Dashes indicate that positive and negative interactions are coded couple behaviors rather than partner behaviors.

Treatment Effects on Cortisol Reactivity to Relationship Imagery (Hypothesis 4)

Descriptive statistics for the cortisol data are shown in Table 3. The results of the quadratic growth model for cortisol reactivity are shown in Table 2. As expected, preimagery cortisol levels (time-varying covariates) were strongly related to postimagery cortisol levels at each measurement period. The analysis of treatment effects indicate that both FREE and HOPE had significant negative linear slopes on postimagery cortisol levels (adjusted for preimagery cortisol). Both treatments also had significant positive quadratic slopes, indicating that the declining cortisol levels began to change course over time. The modeled trajectories indicate that FREE and HOPE had substantially lower posttreatment levels compared with controls by 1-month posttreatment ($d = .35$ for FREE, $d = .41$ for HOPE), but these treatment gains began to attenuate by the 12-month follow-up ($d = .10$ for FREE, $d = .25$ for HOPE). Because a significant quadratic effect was found in the growth models, we conducted two endpoint analyses for the cortisol data: 1-month posttreatment and 1-year follow-up. *Cortisol reactivity* was defined as the change in cortisol level from pre- to postimagery at each assessment. We regressed treatment condition on the change in cortisol reactivity from baseline to endpoint. For the 1-month assessment, both HOPE ($B = -0.012$, $SE = 0.006$, $t = -1.99$, $p < .05$) and FREE ($B = -0.011$, $SE = 0.004$, $t = -2.53$, $p < .05$) had significant reductions in cortisol reactivity compared with controls. At the 1-year follow-up, neither HOPE ($B = -0.007$, $SE = 0.006$, $t = -1.12$, $p = .26$) nor FREE ($B = -0.004$, $SE = 0.006$, $t = -1.89$, $p = .37$) differed from controls. The findings were consistent with Hypothesis 4 posttreatment but not at follow-up.

Dropout Analysis

To determine whether dropout from the study was associated with initial status at the baseline, we compared participants who completed the 1-year follow-up assessment (completers) with participants who dropped out of the study earlier (t2 or earlier). We regressed dropout status on baseline measures, adjusting for within-couple dependencies as in the other analyses. Couples who failed to complete the study were significantly lower on the initial communication self-report measure compared with completers ($p < .01$). There were no significant differences on any other baseline measure. There was not, however, a significant difference in the percentage of dropouts between treatment conditions (FREE 20.4%, HOPE 31.6%, control 20.5%), $\chi^2(2, N = 145) = 2.29$, $p = .32$.

Discussion

We conducted a randomized clinical trial with newly married couples in which two components of HFCE were compared with each other and with controls. Both interventions demonstrated favorable outcomes relative to untreated controls, but in different, theoretically consistent ways. Our findings are consistent with other studies of marriage enrichment that have revealed that couples who attend an intervention experience enhanced (or at least experienced less severe declines in) relationship quality than those who do not receive intervention (for meta-analyses, see Blanchard,

Hawkins, Baldwin, & Fawcett, 2009; A. J. Hawkins et al., 2008; Jakubowski et al., 2004).

Hypothesis 1: Both Treatments Will Improve Relationship Quality

This hypothesis was partially supported. Only the HOPE condition demonstrated significant benefits to overall dyadic adjustment compared with controls. We expected that the FREE intervention would yield comparable effects to those of HOPE. However, the FREE condition had a positive but nonsignifcant slope relative to controls, and only a modest effect size at the 12-month follow-up. HOPE may be a more potent strategy for preventing declines in relationship quality. FREE may be more effective for a subset of couples who experienced more severe offenses leading to escalation of conflict within the relationship.

Hypothesis 2: Treatments Will Have Stronger Effects on Proximal Relational Measures

FREE was hypothesized to differentially benefit forgiveness-related variables (i.e., TRIM), and HOPE was hypothesized to differentially benefit communication-related variables. There was general support for this hypothesis, but contrary to our hypothesis, both conditions showed improvements in empathy.

Hypothesis 3: HOPE Will Affect Observed Communication More Than FREE

For people in both intervention conditions, the negative communication increased less over time than for people in the control condition, and the rate of increase of positive communication in both treatment conditions was greater than in the control condition. This finding contrasts to the short-term study of Ripley and Worthington (2002), in which HOPE produced better communication, whereas the control but FREE did not. The durations of the two studies (i.e., only 1 month follow-up for the Ripley & Worthington, 2002, study) might explain the difference. In the present study, whereas HOPE trained people communication and resulted in better self-reported communication, the FREE intervention promoted forgiveness and changed the emotional climate of the relationship, which also likely influenced communication. Thus, both affected communication but through different mechanisms. The Ripley and Worthington (2002) study took place in a group context in which discomfort discussing offenses and forgiveness may have distracted from treatment effects, whereas the present intervention took place in a dyadic context. Also, the present intervention spent twice as long as the previous study on dealing with emotional distress. Helping couples deal directly with negative emotions (through forgiving) has been shown to help couples in therapy improve their emotional functioning (see Baucom, Snyder, & Gordon, 2009; Greenberg, Warwar, & Malcolm, 2008). Although the range of negative emotional engagement in couple enrichment relative to couple therapy is substantially less, this result appears to indicate that some of the findings applicable to couple therapy (e.g., emotionally focused couple therapy and Gordon, Baucom, and Snyder's, 2005, couple therapy for affairs) might be generalizable to relationship education.

FREE (see Burchard et al., 2003; Worthington, 2006) focused on forgiveness, teaching Worthington's (2006) steps to REACH forgiveness *and* reconciliation (see Worthington, 2006). In Ripley and Worthington (2002), most of the 5 hr of training focused on forgiveness *but not* reconciliation. During the discussion of reconciliation in the present study, couples were taught how to discuss transgressions, reproaches, give accounts, and grant forgiveness. Thus, though couples were not trained in how to resolve differences and communicate their feelings, wants, and thoughts as they were in HOPE, couples were taught and coached in targeted communication around topics that previously had been conflictual. That training might have generalized, resulting in no differences on communication between the two intervention groups.

If this finding is replicated, there are important clinical implications. Recent research on marriage (e.g., Fincham, Hall, & Beach, 2005) has suggested that the ability of couples to restore damaged emotional bonds affects long-term relationship quality at least as much as improving communication and conflict. Forgiveness intervention early in marriage, especially if coupled with teaching and coaching about how to discuss and experience reconciliation, could be a valuable addition to enrichment and prevention intervention programs.

Hypothesis 4: Both Treatments Will Reduce Cortisol Reactivity

Results partially support this hypothesis. There were moderate reductions in cortisol reactivity at immediate posttreatment; however, both conditions lost some initial benefits by 12-month follow-up. The gains at posttreatment for FREE were not maintained as well at follow-up as for HOPE. The continued effect of HOPE relative to controls on this physiological measure of stress is noteworthy. The immediate posttreatment impact of FREE is also noteworthy; prior research has revealed that brief psychological interventions can reduce cortisol levels over short time periods (Bormann, Aschbacher, Wetherell, Roesch, & Redwine, 2009). FREE may have helped couples address actual hurts within the relationship, but different strategies (e.g., booster sessions) may be needed to help couples continue to practice forgiveness after the intervention.

General Discussion

Most couples can readily see that HOPE (i.e., communication and conflict resolution) is potentially helpful, thus easily engaging couples in treatment. With FREE (i.e., forgiveness and reconciliation), however, we had to justify treatment to generally happy couples. We described FREE as a treatment aimed at helping partners enhance their abilities to deal with *almost inevitable* hurts over the course of marriage. We pitched it as an intimacy-restoration skill set.

We note that a recent exceptionally brief intervention by Finkel, Slotter, Luchies, Walton, and Gross (2013) had couples write every 4 months for 1 year about how a neutral third party who wants the best for both partners might view a conflict from their marriage. They also wrote about how they might take such a disinterested perspective. The writing greatly reduced negative affect, whereas the control condition (reporting on conflicts but not writing about the third-person perspective) continued to worsen.

This time-efficient intervention had large effects. Such interventions are becoming more common (for a review, see Walton, 2014). Frankly, we marvel at the outcomes, and hope for many successful replications. We note, however, that the focus is on selected conflicts, and the generalizability across a complex relationship has not yet been established. However, certainly, to the extent this replicates and extends, this (and other of the "wise" interventions) is promising and exciting.

Limitations

In this controlled clinical trial of the efficacy of two 9-hr components of HFCE, there was attrition. Only 111 of 145 couples had data on all five measurement occasions. Our sample had some selection bias because participants volunteered on the basis of newspaper or radio advertisements. Karney et al. (1995) found that couples recruited via newspaper advertisements were at higher risk for marital dysfunction than those recruited via marriage license searches. However, in spite of this, only 5.8% of our sample at baseline had clinical levels of marital distress (i.e., DAS score less than or equal to 97). Furthermore, our sample tended to be older than samples in some other research. Our sample was limited to couples between 6 and 9 months married without history of psychological treatment. Much research on the course of marriage has suggested that that is a critical time in a relationship's success. Lavner and Bradbury (2012) and Lavner et al. (2012) used a longitudinal sample to study the importance of the early phase of marriage and why people not receiving treatment might divorce. On one hand, they found that initial differences in marital satisfaction provided a better predictor of marital deterioration than did sheer incremental decline. However, on the other hand, they found that the couples who were the unhappiest initially had a precipitous drop in satisfaction during the first year. Apparently, when problems in the first year are not dealt with, the marriage might not have a good future.

In addition, we did not use a randomization procedure that cast each couple with equal opportunity to receive treatment. This study took place over a long period. We randomized to treatment as couples phoned and met selection criteria. Couples were batched in threes, and each couple within the threesome was assigned randomly to one of the treatments or control.

Our protocol (see Berry & Worthington, 2001) for collecting salivary cortisol samples was weak. Couples engaged in a decision-making conversation. They (a) calmed down by a pleasant discussion, (b) were separated, (c) rested 10 min while completing nonrelationship-oriented questionnaires, and (d) relaxed alone for 30 min while imagining pleasant scenes. First, we probably could have given people more time to calm themselves prior to giving their saliva sample. Probably, 1 hr of relaxation is not enough to restore baseline levels of cortisol after a decision-making task. Second, we allowed only 5 min for cortisol to peak between initial and measured levels, whereas it typically can take 15 min. Thus, our cortisol results may be artificially attenuated due to a couple of poor methodological choices.

Attrition was higher than we would have liked, though not out of line with other intervention studies with 1-year posttreatment follow-ups. Some participants were lost when our university Institutional Review Board (IRB) was closed by the federal government. Our study was interrupted for 8 months!! We lost about

everyone in the pipeline, which included 21 (HOPE, seven; FREE, six; control eight) people who had been assigned to treatment. The IRB closure led to others who were "lost to follow-up" (see CONSORT flow chart). However, the data for most of those who had at least been tested initially and received all of their treatment could be included in the data analysis.

Implications

Best practices were followed throughout (Halford, Markman, Kline, & Stanley, 2003). The present study was within the top quartile of relationship education studies according to size of sample. It provided evidence that each of the interventions is efficacious, but because the 9-hr interventions are drawn from an empirically supported treatment (Jakubowski et al., 2004), the present study provides additional evidence of the efficacy of the HFCE and its components.

In addition, we suggested in the introduction that questions had been raised (see Fincham, 2003) about whether skills training in communication and conflict resolution or in forgiveness and reconciliation are primarily responsible for effective marital enhancement. We cannot definitively conclude this. However, in many ways, both treatments had similar effects. This suggests that either intervention might work but perhaps for different reasons. FREE affected forgiveness and emotional variables more than did HOPE; HOPE affected self-reported communication but FREE did not. However, FREE did affect coded communication equally to HOPE. In HOPE, little attention was paid explicitly to the emotional bond and its repair.

One parsimonious hypothesis is that these marriage enrichment interventions affected couples' resolve to maintain happy, emotionally connected, and minimally conflictual relationships (M. N. Hawkins, Carrere, & Gottman, 2002). That resolve, in conjunction with increased salience of the value of the marriage that is inherent in any marriage intervention, resulted in more attention and effort to doing what seemed needed to maintain or improve the relationships.

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