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Immediate Effect of Couple Relationship Education on Low Satisfaction Couples:
A Randomized Clinical Trial Plus an Uncontrolled Trial Replication

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Abstract

Couple relationship education (RE) usually is conceived of as relationship enhancement for currently satisfied couples, with a goal of helping couples sustain satisfaction. However, RE also might be useful as a brief, accessible intervention for couples with low satisfaction. Two studies were conducted that tested whether couples with low relationship satisfaction show meaningful gains after RE. Study 1 was a three condition randomized controlled trial in which 182 couples were randomly assigned to RELATE with Couple CARE (RCC), a flexible delivery education program for couples, or one of two control conditions. Couples with initially low satisfaction receiving RCC showed a moderate increase in relationship satisfaction ($d = 0.50$) relative to the control. In contrast, couples initially high in satisfaction showed little change and there was no difference between RCC and the control conditions. Study 2 was an uncontrolled trial of the Couple Coping Enhancement Training (CCET) administered to 119 couples. Couples receiving CCET who had initially low satisfaction showed a moderate increase in satisfaction ($g = .44$), whereas initially highly satisfied couple showed no change. Brief relationship education can assist somewhat distressed couples to enhance satisfaction, and has potential as a cost effective way of enhancing reach of couple interventions.

Keywords: relationship education; relationship distress; couple relationship.

Relationship Adjustment and Immediate Effects of Couple Relationship Education

Couple relationship education (RE) usually is conceived of as relationship enhancement for currently satisfied couples, with a goal of helping couples sustain satisfaction. However, RE also might be useful as a brief, accessible intervention for couples with low satisfaction. The current paper is a report of two studies that tested whether couples with low relationship satisfaction show meaningful gains after RE.

Couple Relationship Education.

Couple relationship education (RE) was developed to enrich couples' relationships and help couples to sustain a healthy, mutually satisfying and stable relationship (Halford, Markman, Stanley & Kline, 2003). Evidence-based RE usually is brief, typically consisting of a 12 to 15 hours curriculum that introduces key relationship knowledge (e.g., the importance of commitment, developing shared and realistic relationship expectations) and skills (e.g., couple communication, problem-solving, coping) (Halford, Markman, & Stanley, 2008). RE typically has a relatively fixed curriculum, and provides only limited tailoring of content to particular couple needs. RE usually works with couples who are currently satisfied in their relationship, and are committed to that relationship. Here RE builds upon the high level of positive emotion typical of currently satisfied couples, and has a strong emphasis on building the positive foundations for a mutually satisfying life together.

RE is somewhat distinct from couple therapy, which is usually addressed to couples who are distressed in their relationship. In contrast to the typically fixed curriculum of RE, evidence based couple therapy typically involves developing a couple specific conceptualization of distress, and an individually tailored treatment program (Snyder & Halford, 2012). Couple

therapists usually are trained mental health professionals who have the skills to deliver this specialized treatment, and to manage the high levels of negative affect many distressed couples feel (Halford & Snyder, 2012). In contrast, RE has been successfully delivered by people without specialized mental health training, such as ministers of religion and midwives (Halford, 2011). Finally, couple therapy is often extensive in duration, with evidence-based approaches often involving 20 or more sessions of therapy (Halford & Snyder, 2012).

Although RE is conceptually somewhat distinct from couple therapy, there is considerable overlap in the content typical of RE and couple therapy. For example, cognitive behavioral approaches to couple therapy include a focus on enhancing shared enjoyable activities, expression of intimacy and caring, teaching couple communication and conflict management, promoting understanding of unhelpful couple interaction cycles, and identifying and challenging unhelpful relationship standards and attributions (Benson, McGinn, & Christensen, 2012; Halford & Snyder, 2012). The content of evidence based RE programs like the Positive Relationship Education Program (PREP), Couple CARE, and Couple Coping Enhancement Training (CCET) include many of these same content areas (Halford & Bodenmann, 2013).

Given the overlap in content between couple therapy and RE, RE might produce at least some of the benefits of therapy for couples who have low relationship satisfaction. In many developed countries, such as the United States, Japan, Australia, and Norway, government and community agencies are promoting dissemination of RE in an attempt to reduce the negative personal, social, and economic effects associated with high rates of divorce and relationship distress (Halford & van Acker, 2012; Huang, 2005; Ooms, 2005). The rates of attendance of RE have grown markedly across the last 30 years (Stanley, Amato, Johnson, & Markman, 2006). Of

couples presenting for RE, a substantial minority have at least mild relationship distress (De Maria, 2005).

One caveat on the potential impact of RE on assisting couples with low relationship satisfaction is that there is some evidence that relationship distress is taxonomic (Beach, Fincham, Amir, & Leonard, 2005; Whisman, Beach & Snyder, 2008). That is, there seems to be an underlying categorical difference between distressed and satisfied couples, which might mean that RE developed for assisting currently satisfied couples might not be effective in assisting distressed couples. Hence, testing the potential impact of RE in improving satisfaction in distressed couples is important.

Effects of Couple Relationship Education

There are well replicated short-term benefits of RE, particularly if the programs are of sufficient duration. A meta-analysis of 117 studies of curriculum based RE reported medium effect size improvements in couple communication, $d = .44$, and small increases in relationship satisfaction, $d = .36$, immediately after RE (Hawkins, Blanchard, Baldwin, & Fawcett, 2008). Programs with moderate dosage (9-20 hours) had substantially larger effect sizes than low dose programs (1-8 hours). In all these studies RE was offered universally, and the mean couple relationship satisfaction before RE typically was high (Hawkins et al., 2008). The moderate overall effect sizes might well reflect a ceiling effect in universal RE, with couples who are initially high in satisfaction having limited room for further improvement. Consistent with this interpretation, an early meta-analysis of RE reported that the lower a particular sample of couples' mean relationship satisfaction was before RE, the greater the effect size increase in relationship satisfaction immediately after RE (Giblin, Sprenkle, & Sheehan, 1985). However, Hawkins and colleagues (2008) in a more recent meta-analysis failed to replicate this association

between low mean satisfaction before RE and the effect size of gains in satisfaction. Hawkins and colleagues did note that, across their large sample of RE trials, samples had predominantly high mean levels of pre-RE satisfaction, with limited variability in pre-RE means across studies. In order to test if couples with low relationship satisfaction show substantial gain in satisfaction after RE, it is necessary to directly test that proposition.

The modest magnitude of short term effects of RE have been a source of debate in the literature. Bradbury and Lavner (2012) argued that the effect of existing forms of RE on relationship satisfaction were variable across studies, with a mixture of null and small (possibly trivial) effects. The overall null findings of the recent large, multi-site Building Strong Families (BSF) study (Wood, McConnell, Moore, Clarkwest, & Hsueh, 2012), and the very small effects observed in the large multi-site Supporting Healthy Marriage (SHM) study (Hsueh et al., 2012) might seem to support the view of Bradbury and Lavner. However, both BSF and SHM involved extensive contact hours for couples, and there was a lot of attrition from the programs.

Halford and Bodenmann (2013) comprehensively reviewed all 17 randomized controlled trials of RE with follow up of 12 months or more, including the BSF and SHM trials. They found all but three of the 17 studies reported positive effects of RE on relationship satisfaction. However, the benefits of RE seemed to be predominantly with particular groups of couples. One group of couples who showed particularly strong benefits from RE were couples who were initially somewhat low in satisfaction. For example, two long-term evaluations of RE in Germany found couples with somewhat low mean satisfaction initially showed both immediate gains in satisfaction, and long-term maintenance of those gains (Braukhaus, Kroeger, Groth & Fehm-Wolfsdorf, 2003; Kaiser, Hahlweg, Fehm-Wolfsdorf & Groth, 1998). However, there was still considerable variability in initial satisfaction within the samples, and it is not clear if the

couples in the samples with the lower satisfaction were those making the most gain. They concluded that the possibility that particular groups of couples benefit from RE warrants further research.

Importance of Effects of Couple Relationship Education on Low Satisfaction

There is a small but growing literature on couple relationship help seeking that suggests RE has a potentially important role in assisting distressed couples. While evidence-based couple therapy has a well replicated efficacy in reducing relationship distress (Snyder & Halford, 2012), the reach of couple therapy is modest. Only about 1 in 5 divorced couples attend couple therapy before separating (Johnson et al., 2002; Wolcott, 1986). Across the first five years of marriage many more couples seek relationship help by attending RE workshops, or reading self-help books, than present for couple therapy (Doss, Rhoades, Stanley, & Markman, 2009). People in committed relationships report a greater willingness to attend RE workshops, or access self-directed learning materials like web sites or books, than attend couple therapy (Duncan, Childs & Larson, 2010; Eubanks, Fleming & Cordova, 2012; Georgia & Doss, 2013).

About 25 to 30% of couples who present for couple therapy are ambivalent about the future of the relationships, and identify clarifying the future of the relationship as a key goal for therapy (Mondor et al., 2013; Owen, Duncan, Anker, & Sparks, 2012). These couples often have experienced long standing relationship distress, which predicts drop out early from couple therapy (Mondor et al., 2012), and poor outcome even in couples who complete therapy (Owen et al., 2012). In other words, couple therapy often comes too late. What is needed is to provide forms of intervention that couples are likely to access when they have somewhat low relationship satisfaction, and before chronic severe distress has developed (Eubanks et al., 2012). RE might well be an accessible form of early intervention for couples with low relationship satisfaction.

RE is delivered predominantly as face-to-face programs, often involving regular attendance at weekly sessions, which often require substantial ongoing time commitment from couples (Wilson & Halford, 2008). A variety of professionals, religious leaders, and political opinion leaders advocate RE attendance, but despite increasing rates of attendance still only a minority of marrying couples attends such programs (Halford, O'Donnell, Lizzio, & Wilson, 2006). One possibility to enhance access is to run RE as an intensive workshop (e.g., across a weekend), which does seem to be attractive to at least some couples (Doss et al., 2009).

Alternatively, many adults prefer to access psychological education through self-directed programs, which can be undertaken at times and places that suit participants, rather than through face-to-face programs (Taylor, Jobson, Winzelberg, & Abascal, 2002). Across diverse applications of adult education, programs structured to allow ease of access and to promote self-directed learning are termed "flexible delivery" programs. In essence flexible delivery means programs that can be accessed at times and places convenient to participants, such as allowing couples to complete programs at home, or online. Flexible delivery has the potential to enhance the reach of RE as couples are more likely to read books (Doss et al., 2009) or access an internet site (Casey & Halford, 2012) on relationships than attend face-to-face education.

Aims of the Study

In summary, RE has content that seems appropriate to assist low satisfaction couples, RE seems to be more acceptable to many couples than seeking couple therapy and flexible delivery or intensive workshops have the potential to enhance reach even further. In the current paper we tested the hypothesis that couples with low relationship satisfaction before RE would show immediate increases in relationship satisfaction after RE. Based on prior suggestions of a ceiling effect on the immediate effects of RE on relationship satisfaction, we also predicted couples with

high satisfaction before RE would show minimal or no increase in satisfaction immediately after RE. In order to test these hypotheses, we examined initial relationship satisfaction as a moderator of immediate response to RE in two separate trials of RE. Support for these hypotheses would have important implications for practice with couples. First, it would establish if accessible RE was helpful in enhancing relationship satisfaction for somewhat distressed couples, at least in the short term. Second, it would confirm that in currently highly satisfied couples RE is unlikely to produce immediate improvements in relationship satisfaction, and research on the effects of on satisfaction of RE for couples who are highly satisfied need to focus on long-term benefits.

Study 1

Method

Participants. Participant couples were 182 heterosexual couples recruited between March 2010 and July 2011 for a study evaluating couple relationship education delivered in couple's home. Recruitment was through internet-based social media (Google and Facebook) and newspaper advertisements. Inclusion criteria for the study were: (a) couples were in a committed relationship (married or cohabiting for a minimum of six months); (b) both partners provided written consent to participate in the study; and (c) neither partner was attending couple therapy, or reported significant relationship distress or severe inter-partner violence.

Figure 1 presents the flow of participants through the study. As shown, 182 couples were randomly allocated to one of three conditions: a self-directed reading control group; RELATE assessment and feedback; or RELATE assessment with feedback plus the six unit Couple CARE program. Of the couples allocated to the RCC condition, seven couples withdrew prior to participating in the RELATE assessment feedback session. Two couples did not complete a

RELATE assessment due to technical difficulties in accessing the online assessment, and these couples received Couple CARE without completing the online assessment.

Measures. RELATE is a 271-item self-report assessment of couple relationship strengths and challenges that is accessed by the internet (Busby, Holman, & Taniguchi, 2001). RELATE scales show a cross-sectional correlation with relationship satisfaction, and predict the trajectory of relationship satisfaction in the early years of marriage (Larson, Vatter, Galbraith, Holman, & Stallman, 2007). RELATE is completed by each partner independently and assesses demographic factors, relationship values, family-of-origin experiences, and the current relationship. Completion of RELATE generates a report of self-reported functioning in their current relationship. It can be used, as it was in the current study, to encourage reflection on couple-specific relationship strengths and challenges, help couples develop relationship enhancement goals, and inform the delivery of CRE (Halford, 2011).

The RELATE relationship satisfaction scale was the key dependent variable in the current study. It is a 6-item measure of global relationship satisfaction. Each item is rated from 1 “very dissatisfied” to 5 “very satisfied” with a range of possible scores from 6 to 30 with higher scores reflecting higher satisfaction. The scale is sensitive to change resulting from RE, the population mean in married couple is approximately 26 ($SD = 6.3$), and based on normative data a cut of below 20, which is 1 SD below the population mean, is used to define relationship distress (Halford et al., 2010). Test-retest reliability of the scale is high, $r = .78$, across a 2 to 3 week period, and shows high convergent validity with other relationship satisfaction scales (Busby et al., 2001).

Couple Relationship Education Programs.

Control. After completing the pre-assessment interview and online RELATE, couples were sent a hardcopy of *The Great Marriage Tune-Up* by Larson (2003) that they were instructed to read over a period of 6-8 weeks. After approximately three weeks couples received one telephone call to review if they had started reading the book, and encourage them to complete the reading. At 8 weeks, couples were contacted for participation in a post-assessment interview. Couples in this control condition did not receive RELATE results or facilitated feedback. This condition was intended to provide couples with information without the individualized feedback and goal setting provided in RELATE, or the additional skill training provided in Couple CARE.

RELATE Assessment and Feedback. Couples were sent a 13 page RELATE report as a PDF e-mail attachment. The report describes the meaning of each scale, provides a graph showing each partner's scores, and defines these scores as strengths, as neutral or as challenges for the relationship. The final page of the report shows the scale scores on a summary graph providing an overall profile of a couple's relationship strengths and challenges. The procedure used was similar to that in prior use of RELATE (e.g., Larson et al., 2007), and was developed with the authors of RELATE. It was suggested that each partner read through the report and then discuss it together. A relationship educator then rang the couple and spoke to them in a semi-structured conjoint interview about the report. Interviews were of 45 to 60 mins. duration. Partners were each asked about their overall reactions to the report, what they identified as relationship strengths and challenges, and whether they agreed with the overall relationship profile presented in the report. The couple was then asked to define relationship enhancement goals, which could be either maintenance of existing strengths or changes to address relationship challenges. Specifically, each partner identified two specific behavior changes they wished to

implement to enhance their relationship (e.g., “to arrange a date together every two weeks” and “to ask more questions and not to interrupt when discussing difficult issues.”)

RELATE with Couple CARE (RCC). The details of Couple CARE and its delivery are described in Halford (2011), and professionals can access the program at www.couplecare.info. In brief, it is a 6-unit program in which couples complete each unit in about a week. The six units of Couple CARE cover the topics: relationship self-change, communication, intimacy and caring, managing differences, sexuality, and managing life changes. In the RCC program the telephone call at the end of the RELATE assessment explored the association between the couple’s identified goals and the content of Couple CARE. For example, the educator pointed out to couples who reported difficulties with managing stress that Unit 6 of Couple CARE addresses this issue. Similarly, the educator pointed out to couples who reported problems with conflict that this issue was covered in Unit 4. While couples completed all 6 units from Couple CARE, the emphasis placed on each unit was tailored to address the specific needs of the couple.

The 6 units of Couple CARE each involve the couple watching a 12 to 15 min segment of a DVD that introduces key ideas and models skills. Then the couple does a series of exercises, which are described in a guidebook, which help the couple apply the ideas and practice the skills. These tasks take approximately 45 to 60 min per unit to complete. Finally, the couple participates in a telephone call with a relationship educator who reviews their completion of the key tasks, and provides coaching and support as required. The total time commitment for couples is about 2 hours per unit, or 12 hours across the whole program.

Educators. The relationship educators were 3 qualified psychologists with extensive experience in RE delivery, and 25 postgraduate clinical psychology students at either the University of Queensland or Griffith University in Brisbane, Australia. The postgraduate clinical

students acting as educators providing the RE received credit toward their course requirements of completing hours of supervised clinical psychology practice. The educators were seven men (22%) and 25 women (78%). Educators completed a full day training workshop on delivery of RELATE based feedback and delivering couple CARE, and had fortnightly group supervision reviewing their delivery of RE.

Procedure

Each educator was allocated blocks of three couples and these couples were, after assessment, randomly assigned to of the three conditions. Random assignment was done by a research assistant based on a random number table. The number of blocks of couples facilitated by a single educator ranged from one to four. Conduct of the study was reviewed and approved by the Human Research Ethics Committee of the University of Queensland.

Data Analysis

Taking the mean of the male and female partner as an index of relationship satisfaction, couples before RE had a mean RELATE satisfaction of 22.3 ($SD = 4.36$), a little over 0.5 SD below the normative population mean of 25.9 ($SD = 6.4$) reported by Halford and colleagues (2010). Given the previously mentioned possibility that relationship distress is taxonomic (Whisman et al., 2008), we classified couples as low or high in initial satisfaction. Low initial satisfaction was operationalized as couple satisfaction before RE 0.5 SD below the population mean, which was < 23 . Across the whole sample 43% of couples were in that low satisfaction range, with 26% of couples being more than 1 SD below the population mean (satisfaction < 20), which is often used to define clinical relationship distress.

The sample size was based on power calculations that a sample of 60 couples per condition provided high power (> 0.9) to detect a small to moderate effect size difference in effects by

condition. MLwin (Rasbash, Charlton, Browne, Healy, & Cameron, 2005) was used to conduct a multi-level modelling (MLM) analysis of intervention effects on relationship satisfaction in which repeated measures across the occasions of measurement formed level 1, partners formed level 2, and couples formed level 3 (Atkins, 2005). The MLM was centered so the intercept reflects the pre-RE assessment, and there is a time effect that reflects change from pre-RE to post-RE. Consistent with MLM conventions (Singer & Willett, 2003), the MLM was developed sequentially, beginning with an unconditional growth model. Previous research showed that Couple CARE produced more increase in relationship satisfaction than RELATE (Halford et al., 2010), but as there was no control condition in the prior study it was unclear if RELATE was increasing satisfaction. Therefore in the current analyses we first compared the two less intensive conditions (0 = control, 1 = RELATE), but found there was no differential effect, $\chi^2(2) = 0.43$ $p = 0.808$, nor was there an interaction of condition by low initial satisfaction, $\chi^2(2) = 0.85$ $p = 0.655$. As there was no overall effect of RELATE relative to the control, we report just on the comparison of RCC with the other two conditions combined (RELATE and control). The equation used to test the effects of RCC was as follows.

$$\text{Relationship satisfaction}_{ij} = [\beta_{0i} + \text{time}_{ij}] + [\text{condition}_i + \text{condition.time}_{ij}] + [\text{low satisfaction}_i + \text{low satisfaction.time}_{ij}] + [\text{condition.lowsatisfaction}_i + \text{condition.lowsatisfaction.time}_{ij}]$$

The variables in the first set of square brackets are the unconditional growth model, the second set of square brackets are the effects of condition, the third set of square brackets are the effects of low initial satisfaction, and the final set are the effects of the interaction of condition by low initial satisfaction. The variable condition.lowsatisfaction.time in the third bracket tests

the key hypothesis that RE produces a selective effect in increasing satisfaction of couples initially low in satisfaction. β_{0i} is the intercept and time_{ij} is the change between pre-RE and post-RE. In doing the preliminary analyses comparing RELATE with Control condition was specified as 0 = control, 1 = RELATE. In assessing the effects of the Couple CARE condition relative to the other two conditions, condition was specified as 0 = control or RELATE; 1 = RCC; and 1 = low satisfaction, 0 = not low satisfaction for pre-RE satisfaction.

Results

The demographics of the sample are presented in Table 1 separately by condition. Overall the sample can be characterized as having a mean age in the early to mid-forties and having been together for 11 to 12 years. About one third of the couples (33%) were cohabitating, and the remainder were married, with 19% of the men and 11% of the women reporting this to be their second marriage. Consistent with the Australian population, a substantial minority of participants (30% of the men and 30% of the women) were born outside Australia. The sample was more highly educated than the Australian population, with 76% of the men and 82% of the women having completed a university degree. The sample's mean pre-tax annual income of AUD \$150,000, which was approximately US \$141,000 at the time of the study, is about 0.5 *SD* higher than the national mean income of Australian couple households with children of AUD \$127,000 (Australian Bureau of Statistics, 2011). Internal consistency of the CSI relationship satisfaction scale in the current sample was high, $\alpha = 0.90$.

Partitioning of the variance on the RELATE relationship satisfaction scale showed there was significant variance at the level of the couple, $z = 4.75 p < .001$, partner, $z = 6.58 p < .001$ and time, $z = 11.45 p < .001$. At the level of the couple ICC = 0.33, partner ICC = 0.36, and time ICC = 0.31, showing similar variance accounted for at each of the three levels. Importantly the

significant couple effect shows that partners' satisfaction across time was related. The unconditional growth model showed there was an overall increase in mean satisfaction between pre-RE and post-RE across conditions, $\chi^2(1) = 30.05$ $p < .001$, and also a random effect of time, $\chi^2(1) = 14.52$ $p < .001$, reflecting that there was variability in the extent of change across time between couples.

The analyses comparing RCC with the other two conditions are presented in Table 2. As is evident there was an overall effect of RCC, with relationship satisfaction increasing more for couples who received RCC than the other two conditions. There also was a main effect of low initial satisfaction. By definition satisfaction was lower in the low satisfaction group before RE. In addition, low satisfaction couples increased their relationship satisfaction across time more than high satisfaction couples. There also was significant interaction of condition by low satisfaction. These effects are shown in Figure 2. It is noteworthy that there was no effect for initially satisfied couples but for couples with low initial satisfaction there was a moderate effect size increase in satisfaction, $d = 0.50$.

We added a dummy variable (female = 0, male = 1) to test for gender effects, but found no differential effect of gender by condition, $\chi^2(2) = 0.41$ $p = .814$. Nor was there any gender difference in the moderation of condition by low initial satisfaction, $\chi^2(2) = 0.27$ $p = .874$.

Discussion

Consistent with the hypotheses, couples with initially low satisfaction increased their satisfaction after RE, while couples with initially high satisfaction showed no immediate gains. These effects were similar for women and men.

Study 2

Method

Participants. One hundred and nineteen Caucasian heterosexual couples were recruited for a relationship education program for couples in Switzerland by means of advertisements in newspapers. Inclusion criteria for participation were: (a) couples were in a committed relationship (married or cohabiting for a minimum of one year); (b) both partners provided written consent to participate in the study; and (c) neither partner was attending couple therapy. All 119 couples filled out the questionnaires two weeks before the RE program and 115 couples filled out the questionnaires two weeks after program (dropout rate 3.4%).

Measures. The 31-item Fragebogen zur Partnerschaftsdiagnostik [Partnership Questionnaire (PQ)] (Hahlweg, 1996) was used to assess relationship satisfaction. The PQ has participants rate agreement on a four-point scale assessing four aspects of relationship functioning (arguments, tenderness, communication, and global relationship satisfaction) from 0 *Never/very rarely* to 3 *very often*, possible scores range from 0 to 93, and higher scores reflect greater relationship satisfaction. In community samples of couples the mean of the PQ is approximately 64 ($SD = 12$) The PQ has been widely used, has good discriminant validity between clinically distressed and non-distressed couples, and has high test-retest reliability ($r > .78$) in different samples (Hahlweg, 1996).

Couple Coping Enhancement Training (CCET). Details about the CCET and its delivery are described in Bodenmann and Shantinath (2004). Briefly, the CCET is a six unit program. The six units of CCET cover the topics: (1) introduction to stress and coping, (2) individual coping, (3) dyadic coping, (4) fairness in relationships, (5) communication skills, and (6) conflict and problem solving skills. The whole intervention took place over a weekend (Friday evening until Sunday evening and each unit is delivered in a 3-hour session. Workshops consisted of four to eight couples with one educator for every two couples.

Educators.

Educators were graduate students in psychology or clinical psychologists with a master's degree. All educators completed a 4-day training (theoretical background and practical skills for delivering the workshops) including 20 hours of supervision.

Procedure

Each of the ten educators was allocated blocks of eight to twelve couples. Couples were randomly assigned to educators. The conduct of the study was reviewed and approved by the research ethics committee of the Swiss National Science Foundation.

Data Analysis.

As in Study 1, the cut off for low satisfaction couples was set at 0.5 SD below the normative population mean, which is 58 on the Partnership Questionnaire (PQ). Across the sample 67% of couples were in the low initial satisfaction group, indicating that the sample was quite unsatisfied with their relationship. Multi-level modeling was used to test whether the change in relationship satisfaction from pre- to post-relationship education was moderated by group membership (i.e., high or low satisfied couples). Repeated measures across occasions formed level 1, individuals formed level 2, and couples formed level 3 (Atkins, 2005). Pre assessment was coded as zero so the intercept reflects the pre-assessment. The equation to test the effects was as follows.

$$\text{Relationship satisfaction}_{ij} = [\beta_{0i} + \beta_1 \text{time}_{ij}] + [\beta_2 \text{low satisfaction}_i + \beta_3 \text{low satisfaction} \cdot \text{time}_{ij}]$$

The variables in the first set of square brackets are the unconditional growth model, the second set of square brackets are effects of low initial satisfaction and the interaction of low

initial satisfaction by time. β_{0i} is the intercept and time_{ij} is the change between pre-RE and post-RE. Time was coded as 0 = pre-assessment, 1 = post-assessment, and low satisfaction was coded 1 = low satisfaction, 0 = not low satisfaction for pre-RE satisfaction.

We used the NLME package in R Version 3.0.2 (Pinheiro, Bates, DebRoy, & Sarkar, 2007) to compute descriptive statistics and the multilevel model. As suggested, we compared the inclusion of different random and fixed effects (e.g., including gender as a fixed effect) by deviance tests (Zuur, Ieno, Walker, Saveliev, & Smith, 2009). For the final model, we used the best fitting model (including couple random effects and individual random-intercepts).

Results

The demographics of the sample are presented in Table 3. The mean age of the men was 41.6 years ($SD = 7.7$) and of the women was 39.4 years ($SD = 7.6$). Eighteen couples (16%) were cohabitating, and 92 couples (75%) were married, with nine men and nine women (7%) reporting this to be their second marriage. Mean duration of the relationship was 13.7 years ($SD = 8.7$) and mean duration of the marriages was 11.9 years ($SD = 8.3$). Thirty-three percent of the men and 12% of the women had completed a university degree. The sample's mean pre-tax annual income was CHF 95,000 (approximately US \$106,000), which is slightly higher than the national mean income of Switzerland couple households (81,000 CHF; Swiss Federal Statistical Office, 2011). Internal consistency for the PQ relationship satisfaction measure in the current study ranged from $\alpha = .85$ to $\alpha = .93$ for gender and all assessments.

Segmenting the variance of the three level model showed that for each level, a substantial proportion of variance in the outcome variable was explained: couple ICC = 0.51, partner ICC = 0.27, and time ICC = 0.22. For the final model, we used the best fitting model (including couple random effects and individual random-intercepts). According to the fixed effect comparison

(model with and without gender/interaction with gender), gender had to be excluded ($L = 3.64$, $df = 4$, $p = 0.457$), which shows there were no gender effects.

By definition satisfaction was lower in the low satisfaction group before RE ($\beta_2 = -17.6$; $p < .001$). In addition, we found a significant interaction of low satisfaction group by time ($\beta_3 = -3.8$; $p = .001$), indicating that couples with low satisfaction increased their satisfaction more when they received CCET than high satisfaction couples. It is noteworthy that there was no effect of CCET for initially satisfied couples but couples with low initial satisfaction showed a moderate effect size increase in satisfaction, $g = 0.44$. In summary, only couples with low satisfaction before RE increased in relationship satisfaction over time.

Discussion

Study 2 tested the hypothesis that couples with low initial satisfaction would increase in relationship satisfaction after RE. Consistent with predictions, couples with initially low satisfaction displayed moderate increases in satisfaction following RE. In contrast, couples with high initial satisfaction showed no immediate gains.

General Discussion

In two studies we supported the hypothesis that couples with low relationship satisfaction before RE show substantial immediate increases in satisfaction after RE. In addition, we found couples with high satisfaction showed no reliable immediate increase in relationship satisfaction. The current findings are consistent with prior speculation (e.g., Halford & Bodenmann, 2013) that the small average effects of RE likely reflects a ceiling effect of RE of satisfied couples to further increase their satisfaction. It is striking that the effect of RE on satisfaction in less satisfied couples was robust across two different programs (Couple CARE versus CCET), delivered in two different formats (flexible delivery versus intensive weekend), and delivered

within two different cultures (Australia versus Switzerland). While further replication is needed, it does suggest that the observed moderation effect might be evident across many RE programs.

The lack of improvement in satisfaction in initially satisfied couples might reflect that there is a true ceiling to couple satisfaction. Alternatively, the observed ceiling effect might reflect that the relationship satisfaction scales used lack measurement sensitivity at the upper end of the relationship satisfaction range. Consistent with this latter possibility, Funk and Rogge (2007) found low measurement sensitivity at the upper end of the satisfaction range in a number of widely used couple relationship satisfaction scales. As suggested by Fincham and Beach (2010), future research should seek to test whether particularly high functioning relationships can be reliably characterized and assessed. If measures more sensitive to variations in high levels of relationship functioning are developed, these could be used to test whether there are short term benefits of RE for highly satisfied couples that are not evident with existing measures of relationship satisfaction.

Limitations of the Research

There are some limitations of the present research that need to be acknowledged. First, the lack of a control condition in Study 2 is a limitation. However, results from Study 2 replicated findings from the controlled trial in Study 1, indicating that the increases in satisfaction are not simply due to regression to the mean. Second, the control conditions in Study 1 involved minimal educator contact (none in the reading condition and a single telephone call in the RELATE assessment with feedback condition). Hence it is not possible to identify what particular components of the RE might be producing effects. RCC and CCET produced quite similar effects on satisfaction despite their somewhat distinctive content. It is possible that some components they share (e.g., the regular couple conversations that are included as part of both

programs, the commitment to focus on the relationship), produce gains in relationship satisfaction rather than the acquisition of any particular knowledge or skills distinctive to the programs. Future research needs to clarify the mediators of change. Third, we only examined the immediate effects of RE. Whether the increases in relationship satisfaction are maintained needs to be tested, although previous research has found effects of RE often are maintained for a number of years (Halford & Bodenman, 2013). In ongoing work we are collecting long-term follow up of couples in the current study that could clarify whether the immediate benefits for low satisfaction couples are maintained.

The participants in both studies were more highly educated than the general populations of the countries from which they were drawn (Australia and Switzerland). Both samples also were predominantly Caucasian. The generalizability of the findings to less educated and more culturally diverse couples needs to be assessed in future research. Also, while we had a substantial proportion of couples with somewhat low relationship satisfaction before RE, we had relatively few severely distressed couples. Ultimately whether RE benefits more severely distressed couples is an empirical question. However, as RE usually does not address issues like individual vulnerabilities or inter-partner violence that often exist in such couples, it seems unlikely brief RE would be particularly effective for highly distressed couples.

There were no gender differences in effects of the programs. While a few studies have found women showed clearer gains in relationship satisfaction from Couple CARE than men (e.g., Halford et al., 2004), most evaluations of RE are similar to the current findings that men and women show similar increases in satisfaction after RE (Halford & Bodenmann, 2013)

Practice Implications

Findings from the present research have important practice implications. RE has traditionally been designed for use by relatively satisfied couples to enhance their relationships (Halford et al., 2003). However, the current research showed that immediate benefits of RE are particularly pronounced for less satisfied couples. Given that RE typically is briefer than couple therapy, and the standardized curriculum means it is easier to deliver than couple therapy, RE holds considerable promise as an intervention for mild to moderately distressed couples. Given that only approximately twenty percent of divorced couples attend couple therapy prior to separation (Johnson et al., 2002; Wolcott, 1986), and that couples are instead more likely to access workshops or self-directed modes of couple intervention (Doss et al., 2009; Duncan et al., 2010; Eubanks et al., 2012), RE might well enhance reach of interventions to distressed couples.

While the present research found that only couples with low initial satisfaction displayed immediate benefits following RE, it is possible that benefits for initially satisfied couples might be evident at longer term follow-up. A specific aim of RE is to help currently satisfied couples sustain high relationship satisfaction in the long term. However, studies need to include extended follow-up assessment to detect such effects because the erosion of average relationship satisfaction in initially satisfied couples tends to be gradual (e.g., Halford, Lizzio, Wilson & Occhipinti, 2007). Halford and Bodenman (2013) suggested RE effects, even with long-term follow up, might be most evident in couples at high risk for future relationship problems. High risk couples show more rapid erosion of average relationship satisfaction than do low risk couples, which make detection of a prevention effect easier. Consistent with these speculations, Halford, Sanders and Behrens (2001) and Petch, Halford, Creedy and Gamble (2012) both found a selective benefit of RE for high risk couples across periods of 3 to 4 years. Our ongoing follow up assessments of the current cohorts might clarify if there are any long-term benefits for couples

initially high in satisfaction from RE, particularly among those couple classified as high risk for future problems.

The similar findings on RE effects across the two countries in which the studies were conducted (Australia and Switzerland) were striking. In ongoing work Couple CARE has been run successfully in the US, while the Positive Relationship Education Program (PREP) evidence based RE program also has been run successfully across a range of Western countries (see Halford, Markman & Stanley 2008 for a review). Examination of the content of PREP, Couple CARE and CCET does not reveal content that at face value is distinctive to a particular country. However, the generalizability of findings to non-Western countries might not be so straight forward, as some assumptions about what constitute a mutually satisfying couples relationship do vary between Western cultures and other cultures (Hiew, Halford, & Lui, 2014). In summary, results from the two studies presented here clearly demonstrate that RE has immediate beneficial effects for couples with low initial satisfaction. Moreover, together the studies show that flexible delivery RE, or intensive weekends, can serve as an easily accessible early intervention for mild to moderately distressed couples.

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Disclosure statement

Dr. Kim Halford and Dr. Keithia Wilson are authors of the Couple CARE program evaluated in this paper. They each receive royalties from the sale of that program.

Dr. Guy Bodenmann is the author of the CCET program evaluated in this paper. He receives royalties from the sale of that program.

Footnotes

¹The cut off to define low satisfaction of 0.5 *SD* below the population mean was somewhat arbitrary. We repeated the analyses dividing couples into distressed, defined by the usual convention of scoring 1 *SD* below the mean on satisfaction, or non-distressed. The pattern of findings was similar as for the analysis with low satisfaction, only the distressed couples showed a reliable increase in satisfaction.

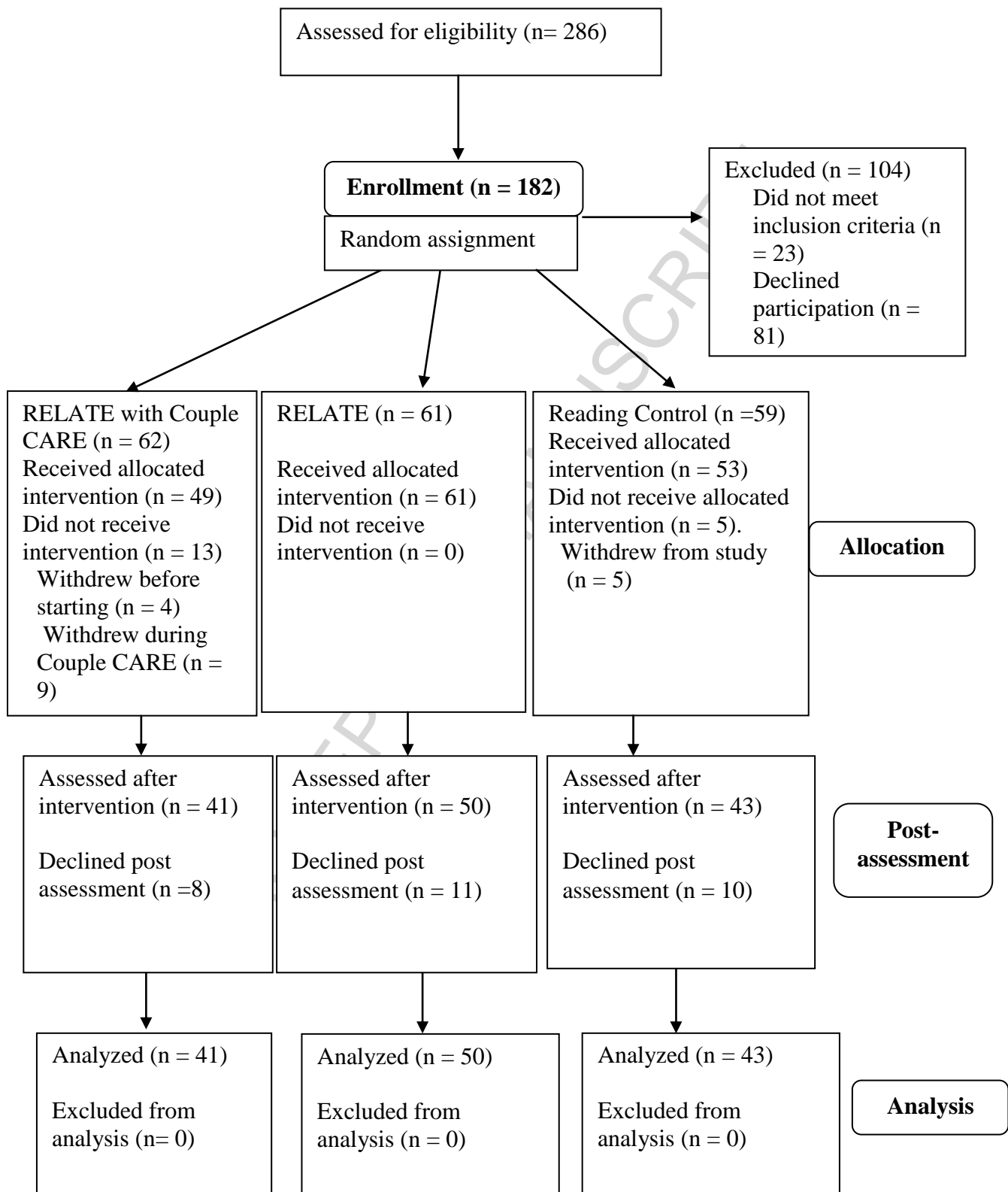


Figure 1 CONSORT flow chart of participants

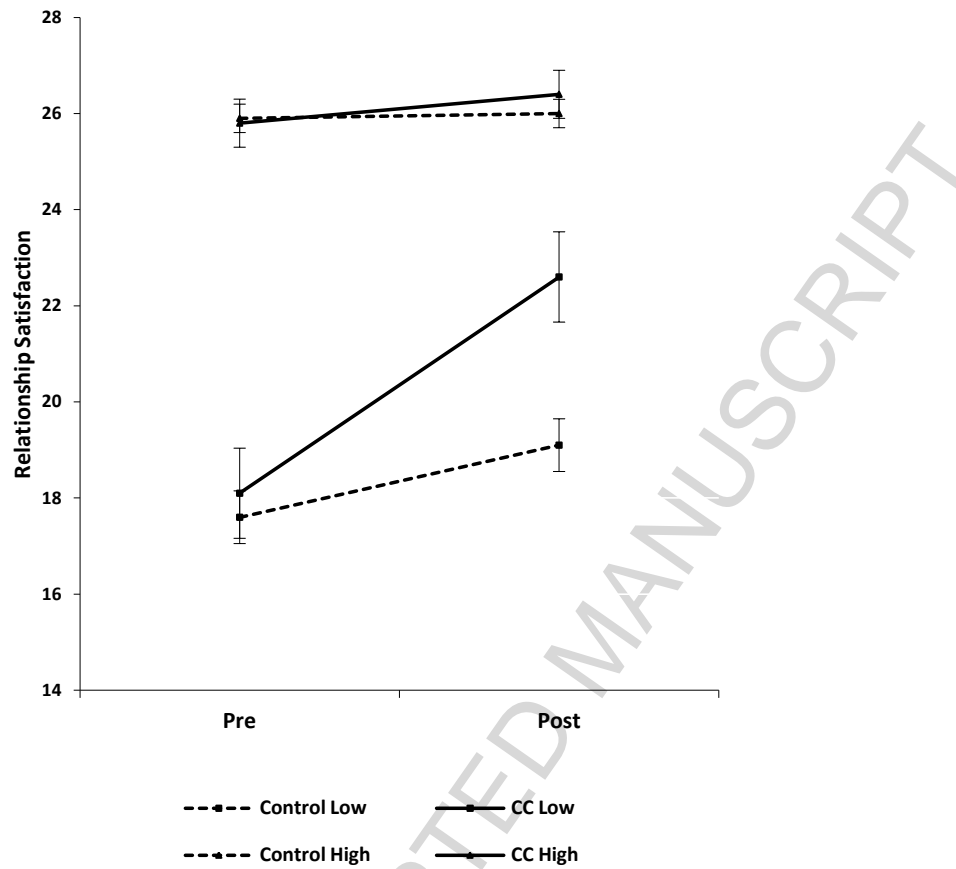


Figure 2 Mean couple relationship satisfaction (and 95% confidence intervals) after Relate with Couple CARE and Control in couples with low and high initial relationship satisfaction

Table 1

Demographics and Pre-Intervention Relationship Satisfaction for Study 1 Participants

Variable	Control	Relate	Relate with Couple Care	Total sample
	N = 59	N = 61	N = 62	N = 182
Continuous variables Mean and Standard Deviation (in parentheses)				
Relationship satisfaction M	22.4 (4.8)	22.7 (5.1)	22.3 (5.4)	22.5 (5.1)
Relationship satisfaction F	21.8 (5.2)	22.8 (4.9)	21.9 (4.9)	22.2 (5.0)
Age M	45.2 (11.7)	43.9 (11.3)	44.5 (11.0)	44.6 (11.3)
Age F	41.1 (10.8)	40.1 (9.6)	42.4 (11.0)	41.2 (10.5)
Years of Relationship	10.6 (8.9)	11.6 (8.6)	12.1 (9.4)	11.5 (9.0)
Household income \$000	150.3 (71.1)	139.3 (60.1)	149.2 (56.4)	147.3 (60.5)
Categorical variables Number and Percentage (in parentheses)				
Cohabiting	24 (41%)	14(23%)	19 (31%)	57 (31%)
Married	35 (59%)	47 (77%)	43 (69%)	125 (69%)
Second marriage M	13 (22%)	11 (18%)	10 (16%)	34 (19%)
Second Marriage F	11 (19%)	7 (12%)	2 (3%)	20 (11%)
Australian born M	44 (74%)	43 (71%)	40 (66%)	127 (70%)
Australian born F	41 (69%)	45 (74%)	41 (66%)	127 (70%)
University Degree M	43 (73%)	47(77%)	48 (77%)	138 (76%)
University Degree F	51 (84%)	45 (76%)	53 (84%)	149 (82%)

M = male partner, F = Female partner

Table 2.

Multilevel modeling of low initial satisfaction on change after relationship education

Variable entered	Block χ^2 (df = 2)	Predictor variable	Pre-RE	Change
Unconditional model	--	Nil	22.32 (0.37)	1.29 (0.27)*
Condition (RELATE with CCare V others)	45.14*	---- Condition	22.24 (0.40) 0.07 (0.59)	0.81 (0.30)* 1.63 (0.50)*
Low Satisfaction (LS)	284.60*	---- Condition LS	25.70 (0.28) 0.15 (0.38) -7.84 (0.37)*	-0.018 (0.34) 1.64 (0.47)* 2.21 (0.46)*
Condition (C) X LS	12.77*	---- Condition LS C X LS	25.74 (0.30) 0.06 (0.51) -7.94 (0.45)* 0.22 (0.76)	0.21 (0.35) 0.32 (0.62) 1.19 (0.55)* 3.12 (0.94)*

* $p < .05$

Table 3

Relationship Satisfaction and Demographics Pre-Intervention for Study 2 Participants

	Male (N = 119)	Female (N = 119)
Continuous variables Mean and SD (in parentheses)		
Relationship Satisfaction (PQ)	55.8 (12.4)	58.0 (13.6)
Age	41.6 (7.7)	39.4 (7.6)
Relationship Duration	13.7 (8.7)	
Marriage Duration	11.9 (8.3)	
Household income \$	106,000	
Categorical Variables Number and Percentage (in parentheses)		
University Degree	36 (33)	13 (12)
Cohabiting	18 (16)	
Married	92 (75)	
Second marriage M	9 (7)	

Note. PQ = Partnership Questionnaire.

Highlights

Brief couple relationship education (RE) is accessed frequently.

RE increases satisfaction in couples with low relationship satisfaction.

RE can be effective when delivered in a self-directed form couples complete at home.

RE can be effective when delivered in an intensive weekend format

ACCEPTED MANUSCRIPT