



HHS Public Access

Author manuscript

J Marital Fam Ther. Author manuscript; available in PMC 2015 September 24.

Published in final edited form as:

J Marital Fam Ther. 2013 October ; 39(4): 407–420. doi:10.1111/jmft.12020.

The Impact of Behavioral Couple Therapy on Attachment in Distressed Couples

Lisa A. Benson,

Department of Psychology, University of California, Los Angeles

Mia Sevier, and

Department of Human Services, California State University, Fullerton

Andrew Christensen

Department of Psychology, University of California, Los Angeles

Abstract

Emotion-Focused Therapy (EFT; Greenberg & Johnson, 1988) is anchored in attachment theory (Johnson, 2003) and considers change in attachment schemas essential in the process of improving satisfaction in relationships (Johnson, 1999). However, there is little data on how measures of attachment change over the course of EFT or any other couple therapy. The current study examines whether increases in attachment security predict improvements in marital satisfaction during behavioral couple therapy, which would suggest that change in attachment style is a key process variable even for a non-attachment focused treatment. Multilevel models of data from 134 couples participating in a randomized clinical trial of Integrative Behavioral Couple Therapy and Traditional Behavioral Couple Therapy (Christensen et al., 2004) indicate that although there is a trend for early change in attachment-related anxiety and avoidance to predict later change in marital satisfaction, early change in marital satisfaction strongly predicts change in attachment-related anxiety through the end of treatment and two-year follow-up. These findings suggest that changes in satisfaction may lead to changes in attachment rather than the reverse and that change in attachment may not be the mechanism of change in all efficacious couple therapy.

Keywords

Marital Distress; Treatment; Attachment

The Impact of Behavioral Couple Therapy on Attachment in Distressed Couples Although attachment theory was originally developed to explain infant behavior, Hazan and Shaver (1987) applied the theory to adult romantic relationships, conceptualizing attachment style as a global working model, or schema, of self and others that guides functioning in intimate relationships. Several decades of measurement research suggests that the construct of adult attachment style consists of an anxious dimension concerning fear of abandonment and an

Correspondence concerning this article should be addressed to Lisa A. Benson, M.A., 1285, Franz Hall, Box 951563, Los Angeles, CA 90095-1563; lbenson1@ucla.edu.

Preliminary results were presented at the 43rd annual convention of the Association for Behavioral and Cognitive Therapies, New York City, November 2009.

avoidant dimension concerning discomfort with closeness (Fraley & Shaver, 2000; Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010). Those with secure attachment styles are low on both dimensions and are expected to have the most satisfying relationships.

The definition of attachment style as a schema suggests that it is essentially stable and global across all the individual's different close relationships (Hazan & Shaver, 1987). However, many studies have found variation in attachment-related anxiety and avoidance across relationships (Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996; Cook, 2000; LaGuardia, Ryan, Couchman, & Desi, 2000) and across time (Kirkpatrick & Hazan, 1994; Scharfe & Bartholomew, 1994; Baldwin & Fehr, 1995; Davila, Burge, & Hammen, 1997; Simms, 2002; Cozzarelli, Karafa, Collins, & Tagler, 2003; Davila & Sargent, 2003; Zhang & Labouvie-Vief, 2004). Also, changes in attachment style have been shown in observational studies to be associated with changes in relationship satisfaction (Fuller & Fincham, 1995; Davila, Karney, & Bradbury, 1999; Cobb, Davila, & Bradbury, 2001; Davila & Bradbury, 2001; Saavedra, Chapman, & Rogge, 2010). Therefore, an interesting question for research on couple interventions is to what extent couple therapy affects couples' attachment styles.

Emotion-Focused Couple Therapy (EFT) is an intervention explicitly designed to improve a couple's relationship satisfaction by making their attachment to one another more secure (Johnson & Greenberg, 1988; Johnson, 2007). In 1999, EFT co-founder Susan Johnson wrote that an important future direction for EFT research "involves the continuation of our efforts to understand the process of therapeutic change in EFT by examining the effect of EFT on specific client cognitions, in this case schemas or working models concerning the acceptability and worthiness of self and the dependability of others" (p. 76). In other words, EFT considers change in attachment schemas an essential mechanism of change in the process of improving a couple's relationship satisfaction.

As of yet, very few studies have specifically measured and examined changes in attachment style in couples participating in EFT. Johnson & Talitman (1997) found that couples in which the male partner was less avoidant (i.e., more secure) at pre-treatment were more likely to be satisfied with the relationship at termination, controlling for pre-treatment satisfaction levels. However, couples were more likely to show gains from pre-treatment to 3-month follow-up if the male partner was *more* avoidant at pre-treatment. Moreover, therapist ratings of improvement at termination were not at all related to pre-treatment attachment scores, and no other attachment variables were predictive of satisfaction or change in satisfaction (Johnson & Talitman, 1997). Therefore, findings from this study appear to be mixed. Sims (2000) randomized 26 couples in which at least one partner had been rated as insecurely attached to EFT or a waitlist control. At the end of treatment and at follow-up, there were no differences in marital satisfaction between the treatment and control groups. However, the EFT couples increased their attachment security (and decreased attachment-related avoidance) more than the control couples, and these improvements in attachment predicted increases in marital satisfaction for the EFT couples (Sims, 2000). The latter study provides some limited evidence that there is a relationship between changes in attachment and satisfaction in an attachment-focused couple therapy. However, as Johnson and Wittenborn (2012) state, additional research is needed on "if and

how EFT can change the multilayered phenomena – affect regulation, cognitive models, interactional behaviors, and physiological responses to threat, that is, human attachment” (p. 21). Moreover, neither of the studies just described examined the alternative hypothesis that changes in satisfaction could predict changes in attachment style. The improvement in marital satisfaction without an equivalent increase in attachment security among the control couples in Sims (2000) indicates that these variables need not be linked for all couples.

The goal of the present study is to determine whether attachment is a vital mechanism of change even within non-attachment focused treatments. Attachment and satisfaction will be investigated across the course of two empirically-supported therapies: Traditional Behavioral Couple Therapy (TBCT) and Integrative Behavioral Couple Therapy (IBCT). First, the trajectory of change in attachment-related anxiety and avoidance variables will be examined. Attachment style may change independently or it may change only in association with concurrent changes in marital satisfaction. Hence, a second question is whether anxiety and avoidance will be related to marital satisfaction over the course of these treatments. Perhaps the most important question is a third, which considers the extent that change in attachment style predicts change in marital satisfaction (as EFT theorists propose), versus the extent to which changes in marital satisfaction predict changes in attachment. Substantial reductions in attachment-related anxiety and avoidance during these treatments, together with a finding that these reductions predict improvements in marital satisfaction, would suggest that change in attachment style is a key process variable even for treatment that does not explicitly focus on the couple’s attachment (which IBCT and TBCT do not), as EFT theorists might predict. Conversely, a finding of improvements in marital satisfaction that are not predicted by changes in attachment style would suggest that attachment is not essential as a mechanism of change in all couple therapies.

An additional question is whether changes in marital satisfaction will be associated with an individual’s own attachment-related anxiety and avoidance over and above the predictive effects of the partner’s anxiety and avoidance. In EFT, behaviors associated with anxious attachment (such as reassurance-seeking) are expected to produce more avoidant attachment behaviors (such as withdrawal) in the partner, and vice-versa (Johnson, 2007). Therefore, an increase in one partner’s anxious attachment may predict an increase in the other partner’s avoidant attachment (and vice-versa for an avoidant individual).

Method

Participants

The data for this study were drawn from a randomized clinical trial of TBCT and IBCT (Christensen, Atkins, Berns, Wheeler, Baucom, & Simpson, 2004; Christensen, Atkins, Yi, Baucom, & George, 2006; Christensen, Atkins, Baucom, & Yi, 2010) involving 134 married couples. Recruitment occurred through advertising and clinic referrals to study sites in Seattle (63 couples) and Los Angeles (71 couples). All couples were heterosexual, currently living together, and legally married. On average, participants were forty years old, had been married for ten years, and had one child. 79% of husbands and 76% of wives were Caucasian, although wives at the Los Angeles site were more likely than wives at Seattle to be from a minority group. All participating couples reported moderate to severe and

persistent marital distress by scoring low on three different marital satisfaction measures at three separate time points prior to the beginning of treatment. Indeed, 94 treatment-seeking couples were excluded from the study on the basis of being insufficiently distressed; approximately half of these excluded couples sought couple therapy in the community.

Exclusion criteria allowed for the possibility of Axis I or Axis II psychopathology in either partner. However, individuals with severe mental illness (e.g., schizophrenia and bipolar disorder) or current substance abuse or dependence were excluded from the study; three couples could not participate as a result. Also, husbands whose wives reported they had engaged in moderate to severe violent behavior could not participate in the study; 101 couples were excluded due to this violence. To avoid confounding treatments, neither partner could be in concurrent individual or marital therapy for the study's duration. However, it was acceptable for a participant to continue taking a psychotropic medication if he or she had been taking it for at least twelve weeks with a stable dose for at least six weeks and the prescribing physician did not expect to alter the prescription during the study.

Procedure

Screening included a phone interview, a mailed battery of questionnaires, and an in-person intake interview; this screening process lasted six weeks on average. Therapy could last a maximum of 26 sessions so further assessments were conducted thirteen weeks after intake (midway through treatment), 26 weeks after intake (the end of treatment if couples completed all 26 sessions on a weekly basis), and immediately after the end of treatment (whenever that occurred as some couples took fewer than 26 sessions while most couples took all or almost all of the sessions but took them over a longer period of time than 26 weeks). Follow-up assessments were scheduled approximately every 6 months after the 26 week assessment for five years with extensive assessments at 2 years and 5 years. The present study uses all data from intake through termination assessments but only follow-up data from the 2 year and 5 year assessments.

Sixty-six couples were randomized to IBCT and sixty-eight to TBCT. Randomization was stratified so that there would be approximately equal numbers of moderately maritally distressed and severely maritally distressed couples in each treatment condition. In both conditions, participants could not receive more than 26 sessions of treatment, although these sessions could take place over as much as one year.

Measures

The full list of measures completed by participants, therapists, and outside raters can be found in Christensen et al. (2004). The present study uses only data concerning marital satisfaction and attachment style.

Dyadic Adjustment Scale (DAS; Spanier, 1976)—The DAS is a widely used measure of self-reported marital satisfaction that seems to be particularly sensitive to change (Christensen et al., 2004). Items include “In general, how often do you think that things between you and your partner are going well?”, “Do you and your mate engage in outside interests together?”, and “Which of the following statements best describes how you feel

about the future of your relationship?” Higher scores refer to greater satisfaction with the relationship. Participants completed the DAS at every assessment. In this sample, measures of internal consistency were .89 for husbands and .87 for wives.

Treatment response—In describing the final results of treatment, five years after the end of therapy, it is useful to calculate to what extent participants have reported clinically significant change, rather than only their outcome (marital satisfaction) scores, especially since a number of couples would not have satisfaction scores due to separation or divorce. In accordance with previous work in this data set (Christensen et al., 2010; Baucom, Sevier, Eldridge, Doss, & Christensen, 2011), treatment response is defined as statistically reliable improvement or movement into the non-distressed range (above 96.8, the midpoint between the normative mean and the pre-treatment mean for this sample; Jacobson & Truax, 1991). Participants failing to respond include those who divorced or separated, did not change, or reliably deteriorated. At 5-year follow-up, 43% of these participants were classified as treatment responders, 46% were non-responders, and 11% had not provided enough data at the five year follow-up to be appropriately classified (Christensen et al., 2010).

Relationship stability—All 134 couples, including those who dropped out of the study, were classified as non-intact (divorced or legally separated) or intact at 5-year follow-up using a combination of self-report and public records. 73.1% of participants (98 couples) were intact at this time point.

Adult Attachment Scale (AAS; Collins and Read, 1990)—The AAS is a multi-item self-report measure of attachment style that was commonly used at the time of data collection. Its eighteen items were selected from a larger pool using factor analysis. The original version of this measure had three factors: anxiety about being abandoned, trust in others’ dependability, and comfort with closeness (Collins & Read, 1990). However, trust in dependability and comfort with closeness are moderately correlated ($r = 0.41$; Collins & Read, 1990). Also, Brennan and colleagues (1998) found that the avoidance dimension of their Experiences in Close Relationships scale was highly correlated with the AAS’s comfort with closeness ($r = .86$) and trust in dependability ($r = .79$) scales, while their anxiety dimension was correlated with the AAS’s anxiety about abandonment ($r = .74$). In accordance with these findings, this study will refer to an “avoidance” factor (comprised by comfort with closeness and trust in dependability, reverse scored) and an “anxiety” factor” (from anxiety about abandonment). In both cases, higher numbers refer to greater amounts of avoidance or anxiety (that is, less security) in the individual’s attachment style. This measure describes attachment in general rather than attachment style with regard to this particular partner, in order to reduce concerns that reported change in attachment style is a proxy for change in relationship satisfaction or vice-versa. Participants in this sample completed the AAS at the pre-treatment, 26 week, 2 year, and 5 year follow-up assessments. Unlike the DAS, the AAS was not completed at the brief termination assessment. The reliability of both the avoidance ($\alpha = 0.83$) and anxiety ($\alpha = 0.81$) factors was high.

Results

This analysis has three primary objectives: 1) to describe to what extent attachment-related anxiety and avoidance change over the course of couple therapy, 2) to describe the overall relationship between attachment style and marital satisfaction over the course of couple therapy, 3) to determine to what extent marital satisfaction and attachment are able to predict one another in the short term (through the end of therapy), and in the long-term (at two-year and five-year follow-up).

The first objective was to describe change over time in attachment style, and for this, two three-level multilevel models were used. The first model had anxiety as the outcome variable, while the second had avoidance as the outcome; the models were otherwise identical, with time points nested within individuals and individuals nested within couples (to account for the non-independence of partners' observations). Examination of the means for both anxiety and avoidance (see Table 1) did not suggest that quadratic change was present: indeed, the slope appeared to be zero). Therefore, only the possibility of linear change was tested, with time as a predictor on level 1. Because gender differences in mean attachment style have at times appeared in the literature (e.g., Zhang & Labouvie-Vief, 2004), gender was included as a predictor on the individual level (2).

Treatment group (IBCT or TBCT) and whether the couple ever separated or divorced over the five years of the study were also included as predictors on the couple level (3) to account for other potential sources of variability. The separation/divorce terms are particularly important because missing data due to having divorced and left the study is considered missing not at random. Atkins (2005) suggests addressing this problem with a pattern-mixture approach: including divorce in interaction with every term in the model; if the interaction term is significant, conclusions about that parameter must be considered sensitive to the missing data pattern. For any parameters that are central to hypotheses for which significant interactions with the divorce term are found, unbiased estimates of these parameter and their standard errors will be calculated. Details of this and other equations used for analysis, together with descriptions of any interactions with the separation/divorce term that were not key to hypotheses, are not described in the text due to space limitations but are available from the first author.

Results indicated the slope of the anxiety trajectory did not significantly differ from zero ($b = -0.053$, $t(91) = -0.86$, $p > .1$; Table 2); the same result was found for avoidance ($b = -0.056$, $t(91) = -0.61$, $p > .1$; Table 2). The overall tendency in this sample was for attachment style to remain stable over the course of the study.

The second goal of the study was to examine how attachment style was related to DAS (marital satisfaction) over the course of treatment and follow-up. The bivariate correlations between anxiety and satisfaction at pre-treatment, two years, and five years are each significantly smaller than zero and range from -0.212 to -0.273 (see Table 1), suggesting an inverse relationship between these variables. Avoidance was also negatively correlated with DAS, but this association was only found at pre-treatment ($r = -0.151$, $p < .05$).

Multilevel models were used to determine more specifically how DAS at each time point was related to concurrent levels of attachment-related anxiety and avoidance. These models were constructed like the two described above with the addition of predictors encompassing DAS and the individual's partner's attachment style (both anxiety and avoidance). These three constructs were split into two variables each: the score at pre-treatment (a non-varying individual-level predictor) and the deviations between the pretreatment score and all subsequent observations (a varying time point level predictor). Therefore, the six resulting predictors (used in both models) were DAS pretreatment, DAS deviations, partner anxiety pretreatment, partner anxiety deviations, partner avoidance pretreatment, and partner avoidance deviations. This type of between/within model (Singer & Willett, 2003) permits distinguishing between the effects of the initial level of each construct and the subsequent changes to that level. All non-dichotomous variables were also grand mean centered to ensure that zero was an interpretable value.

DAS deviations were significant predictors of concurrent levels of attachment-related anxiety even over and above the association with the individual's partner's attachment style ($b = -0.029$, $t(1205) = -2.24$, $p < .05$). In other words, as marital satisfaction increased, attachment-related anxiety would be expected to decrease (making the attachment more secure). DAS deviations did not independently contribute to the model of avoidance scores. However, there were two significant interactions involving DAS deviations. The interaction between partner's pre-treatment avoidance and DAS deviations was a significant positive predictor ($b = 0.011$, $t(1205) = 2.26$, $p < .05$). That is, only at high levels of partner pre-treatment avoidance do we see a positive relationship between DAS and current avoidance. The interaction between DAS deviations and partner's pre-treatment anxiety was a negative predictor of avoidance that approached statistical significance ($b = -0.01$, $t(1205) = -1.891$, $p = 0.059$). This finding suggests that for individuals with high levels of initial partner anxiety, increases in DAS might have been associated with less avoidance.

Overall, these analyses of concurrent relationships between DAS and attachment style suggest that in accordance with the EFT view, some relationship exists between the two. Although attachment style did not tend to change overall, it may have undergone change in step with changes in DAS.

The third set of analyses looked somewhat more specifically at the extent to which earlier change in DAS was a predictor of later change in attachment style (thus using a lagged rather than concurrent design). For comparison, similar models were used in which attachment style was considered as a predictor of change in DAS. These initial models were intended to cover approximately the period of active treatment, which lasted an average of eight months (maximum of twelve). However, the precise time points used differed across models due to variation in when each measure was collected, as is described below.

The primary focus of these analyses is to determine whether any of the variables of interest measured during therapy could predict anxiety, avoidance, or marital satisfaction at the end of therapy. If prediction were successful for any of these three, we would proceed to determine whether regressed change during treatment could predict attachment or

satisfaction at two-year follow-up; and if this were successful, whether it could predict at five-year follow-up.

a) The DAS model used as its outcome the DAS score provided at the final session of treatment.¹ The primary predictors were own anxiety at 26 weeks, partner's anxiety at 26 weeks, own avoidance at 26 weeks, and partner's avoidance at 26 weeks. However, own DAS at pre-treatment, together with own and partner's anxiety and avoidance at pre-treatment, were also included to control for baseline and so any findings for attachment can be interpreted as the effects of regressed change. Because the time points were selected rather than included as a level of the model, this multilevel model had only two levels (individuals nested within couples), rather than three as before. The DAS and attachment predictors, together with gender, were entered on the individual level, while separation/divorce and treatment group were entered on the couple level.

Results from the final DAS model indicate that both anxiety and avoidance at 26 weeks approach but do not quite achieve significance as predictors of DAS at post-treatment. There is a trend for anxiety to be a negative predictor ($b = -0.64$, $t(150) = -1.81$, $p = 0.073$), so that for every increase of one unit of anxiety over the mean for 26 weeks, while controlling for pre-treatment levels, DAS may be expected to be 0.64 units lower at post-treatment. To illustrate this lack of strong relationship between anxiety at 26 weeks and final DAS, see Figure 1a, a graph of the mean final DAS for all participants whose anxiety score at 26 weeks was one or more standard deviations below the mean 26-week anxiety score, mean final DAS for participants whose 26-week anxiety was within one standard deviation of the mean 26-week anxiety score, and mean final DAS for participants whose 26-week anxiety was one or more standard deviations above the mean 26 week anxiety score.

Similarly, there is a trend for 26-week avoidance to be a negative predictor, so that for every increase of one unit of avoidance over the mean ($b = -0.64$, $t(150) = -1.75$, $p = 0.082$), DAS may be expected to be 0.64 units lower. However, there was also a significant interaction between 26-week avoidance and the separation/divorce term, which indicates that this estimate may be biased by the absence of data that are missing due to separation and divorce. Using the formula described above, an unbiased estimate can be calculated to be -1.17 , with a variance of 0.12. This value is significantly smaller than the original estimate of -0.64 , suggesting we should increase our confidence that 26-week avoidance is a negative predictor of final DAS ($t(133) = 12.2$, $p < .05$; Figure 1b).

On the strength of these trends, we proceeded to determine whether change in these variables during treatment could continue to predict DAS at two-year follow-up. As before, a two-level model, with individuals nested within couples, was used. Predictors on the individual level were DAS, own anxiety, own avoidance, partner's anxiety, and partner's avoidance – each measured at both pre-treatment and 26 weeks – as well as gender. Separated/divorced status and treatment group were again included on the couple level.

¹The timing of the post-treatment assessment was variable, since couples were permitted to complete different numbers of sessions in accordance with clinical need. Therefore, a covariate representing the number of days between the 26-week assessment and the post-treatment assessment was initially included in the DAS model. However, since this covariate was not a significant predictor of outcome on its own or in interaction with other variables, it was omitted from the final model.

Unexpectedly, none of the variables measured at 26 weeks are significant predictors of DAS at 2 years, nor are there trends for any of the attachment variables to be predictors (see Table 3). The only predictor of 2-year DAS to reach significance in this model is an interaction between treatment group and pre-treatment DAS ($b = -0.50$, $t(180) = -2.064$, $p < .05$), such that pre-treatment DAS ($b = 0.16$) is positively associated with 2-year DAS for the TBCT group, but this relationship is reversed for IBCT. Because anxiety, avoidance, and DAS at 26 weeks failed to predict DAS at 2 years, we did not proceed to analyze whether they would predict DAS at 5 years.

b) The models with attachment-related anxiety as an outcome were similar to those used for DAS, but used slightly different time points due to the schedule of data collection. Because attachment data was only available at pre-treatment and 26 weeks and not at termination, the 26-week data were needed as the outcome. Therefore, DAS data from pre-treatment and 13 weeks were used as the predictors. Own and partner's anxiety and avoidance from pre-treatment were included as controls on the individual level, and all other predictors were the same as for the DAS model.

In the model predicting anxiety at 26 weeks, DAS at 13 weeks is a significant negative predictor ($b = -0.062$, $t(174) = -2.48$, $p < .05$; see Table 3), so that for every increase of one unit of DAS over the mean for 13 weeks, while controlling for pre-treatment levels, anxiety is expected to be 0.062 units lower at 26 weeks (Figure 1c). In other words, early improvement in DAS is associated with reductions in attachment-related anxiety late in treatment, as was predicted by the alternative view of the relationship between attachment and satisfaction.

Based on this result, we also evaluated to what extent change in DAS from pre-treatment to 26 weeks (that is, over most of the course of treatment) would be predictive of anxiety at 2-year follow-up. This model was constructed in the same way as that predicting 26-week anxiety, with individuals nested within couples. Predictors on the individual level were DAS, own anxiety, own avoidance, partner's anxiety, and partner's avoidance – each measured at both pre-treatment and 26 weeks – as well as gender. Treatment group and separation/divorce was again included on the couple level.

The results indicated that both pretreatment DAS and 26 week DAS are significant predictors of anxiety at 2 years. Surprisingly, pretreatment DAS is positively associated with later anxiety ($b = 0.067$, $t(172) = 2.41$, $p < .05$), such that greater marital satisfaction predicts greater anxiety at two years. However, the results for 26 week DAS ($b = -0.40$, $t(172) = -2.02$, $p < .05$) indicate that for every increase of one point in 26 week DAS over the mean, a decrease in 2 year anxiety is expected, which also supports the view that early change in satisfaction would predict later change in attachment (Figure 1d). Other predictors of 2 year anxiety include pretreatment anxiety ($b = 0.5$, $t(172) = 4.52$, $p < .001$), partner's pretreatment anxiety ($b = 0.13$, $t(172) = 1.98$, $p < .05$), 26 week anxiety ($b = 0.28$, $t(172) = 2.68$, $p < .01$), and 26 week avoidance ($b = 0.17$, $t(172) = 2.38$, $p < .05$); in short, own and partner's attachment during treatment also influence later anxiety.

Therefore, attachment-related anxiety data from 5-year follow-up were also analyzed. This model was identical to that at 2-year follow-up, with only the outcome variable changing from 2-year anxiety data to 5-year anxiety data. Unexpectedly, pre-treatment anxiety is the only significant predictor ($b = 0.38$, $t(180) = 2.88$, $p < .01$; see Table 3). None of the hypothesized main effects of marital satisfaction or avoidance were found.

c) Models for attachment-related avoidance were identical to those used for anxiety. For the model predicting avoidance at 26 weeks, neither DAS at pre-treatment ($b = -0.068$, $t(174) = -1.399$, $p > .1$) nor DAS at 13 weeks ($b = -0.00033$, $t(174) = -0.008$, $p > .1$) is a significant predictor. Only pre-treatment avoidance is a significant predictor of avoidance levels later in treatment ($b = 0.74$, $t(174) = 9.010$, $p < .001$). Because there was no evidence that change either in attachment style or in marital satisfaction during early therapy predicted avoidance near the end of therapy, no further analyses were completed using this variable.

Discussion

The first goal of this study was simply to describe the nature of attachment in couples participating in behavioral couple therapy. The interesting finding that the trajectory of change in attachment style during and after therapy was indistinguishable from a flat line indicates that substantial amounts of change in attachment should not be expected, particularly when changes in satisfaction are not considered. This conclusion is consistent with the idea that attachment style, especially when measured globally rather than in reference to a particular relationship, can typically be characterized as stable (Hazan & Shaver, 1987).

At the same time (and in response to our second question), we found evidence in this sample that attachment does change in association with changes in marital satisfaction. Changes in marital satisfaction from pre-treatment to each subsequent time point in the study were predictors of concurrent anxiety (although not avoidance) scores, even over and above the effects of the partner's attachment style. In other words, as marital satisfaction changes, we expect to see new values for attachment style, indicating in some sense that they change together.

Third, we planned to seek additional information about the nature of these changes from the lagged prediction models we then tested. Unfortunately, due to differences in the battery of measures used at each time point in this data set, it was not possible to construct the models in which attachment predicts marital satisfaction versus the ones in which marital satisfaction predicts attachment with exactly the same time points, nor was it possible to nest the models in order to provide a clearer comparison. These limitations mean comparisons between the models of marital satisfaction and the models of attachment must be made with caution. However, it was interesting to find that there were only statistical trends for attachment and avoidance through the first part of treatment to predict marital satisfaction at the final session (although the estimate for avoidance apparently is biased by data missing due to divorce and should have a larger absolute value). By contrast, marital satisfaction through the first part of treatment is a strong predictor of anxious attachment later in treatment. These results do not clearly support the EFT view that attachment is a necessary

mechanism of change in marital satisfaction during treatment; instead, they give somewhat stronger support to the alternative view that attachment may be secondary to change in satisfaction.

Additional support for this view is provided by the findings that no attachment variable is a significant predictor of satisfaction at two-year follow-up. In other words, although there is some limited evidence suggesting that early changes in attachment may predict later changes in satisfaction during treatment, attachment's influence disappears in the years following therapy. By contrast, change in marital satisfaction over the course of treatment continues to be a strong predictor of attachment at two-year follow-up, suggesting that change in marital satisfaction during therapy may improve global attachment style well after the end of treatment. This finding also supports the alternative view of the relationship between marital satisfaction and attachment style during couple therapy: that is, change in satisfaction precedes change in attachment.

A major unexpected finding is the difference in results between attachment-related anxiety and attachment-related avoidance. Very few predictors of avoidance were found; even partners' anxiety and avoidance failed to predict participants' own avoidance at 26 weeks. By contrast, anxiety was closely linked to marital satisfaction across all models. It is possible that anxious individuals are more sensitive to changes in their relationships, since the nature of their anxious attachment makes them more attuned to the partner's behavior. Then, improvements in this primary relationship may have alleviated some of their concerns about abandonment, permitting more secure behavior across their relationships.

Avoidant individuals may have experienced some relief as their relationships became less overtly conflictual, but this may not have changed their general desire for less closeness and more independence. Perhaps partner acceptance of avoidant behavior also played a role in the context of the current therapies, as IBCT couples might have gained greater understanding of avoidant behavior. As a result, they might have adjusted their own behaviors and perhaps attachment schemas to accommodate differences in desired levels of intimacy and closeness. Note that when the partner's pre-treatment avoidance level was high, marital satisfaction tended to increase as own avoidance increased. This finding implies it is possible that when one partner is very avoidant, the relationship may become more satisfactory to both if it becomes possible for the other partner to desire less dependence and closeness. Although this idea was unexpected, it may be related to Johnson and Talitman's (1997) finding that couples had greater gains through follow-up if the male partner was more avoidant at pre-treatment.

The observed effect of marital satisfaction on attachment-related anxiety may seem surprising given that these changes occurred in the context of a behavioral, not attachment-focused, couple therapy. However, although the theory of clinical change underlying behavioral and cognitive-behavioral treatment (CBT) does not explicitly incorporate attachment theory, their compatibility has been previously noted in the literature. McBride and Atkinson (2009) argue that since attachment styles are essentially interpersonal schemas, CBT's evidence-gathering interventions are meant to change these schemas by providing new data. Davila (2003) and Coop Gordon and Christman (2008) each suggest

that the styles described by attachment theory can serve as heuristics to help a CBT practitioner predict a client's future interpersonal behavior and then highlight this behavior's function for the client. Although neither the IBCT nor the TBCT therapists were instructed to use attachment schemas specifically, it is likely that some of the interpersonal patterns targeted in these therapies could be characterized as attachment-related.

For example, with a couple that had grown distant in the years that the husband had been chronically unemployed, with neither sharing their increasing concerns about their financial status, the IBCT therapist might conceptualize the couple's behavior as resulting from an anxiety that if either partner did express their powerful but vulnerable emotions, such as fears of bankruptcy, the other would respond unsupportively or not at all. An EFT therapist would very reasonably label this pattern as a lack of secure attachment; that is, a lack of confidence that the other partner would respond with comfort when needed. Therefore, both therapists would encourage one partner to express the soft emotion (which EFT therapists call "blamer softening"; Furrow, Edwards, Choi, & Bradley, 2012) and the other partner to express empathy and understanding of this emotion, allowing the couple to experience what IBCT therapists call empathic joining around the problem. In this way, both approaches demonstrate that they often share the common treatment principle of eliciting avoided private behavior and facilitating a supportive response to that behavior (Benson, McGinn, & Christensen, 2012; Christensen, 2010).

However, attachment theory may not always be so descriptive of a couple's presenting concerns. Davila (2003) cautions that behavioral therapists should avoid letting the label of an attachment style prevent them from developing an ideographic functional analysis of each client. In other words, although framing couples' difficulties in terms of attachment may sometimes be helpful, this conceptualization may not be the best fit for all couples from a behavioral point of view. Therefore, we would expect behavioral therapists to target client changes and conceptualize those changes in ways that are *sometimes but not always* attachment-related. For example, an IBCT therapist working with a couple whose primary complaint is that neither respected the other would probably not formulate the problem as an attachment issue, in which each felt insufficiently comfortable depending on the other. Depending on the particulars of the case, the IBCT therapist might formulate the problem as a competitive struggle over who was right or who should be in control. After interventions that helped both these partners become more aware of the emotional and behavioral antecedents and consequences of their critical, disrespectful behavior toward each other and that helped them alter their behavior, we would expect to see an increase in their satisfaction with the relationship. As the relationship improved, we might then see improvements in their willingness to trust one another and rely on each other's support as reflected in increased attachment security. Thus, a couple whose problems were not formulated as attachment related might still experience improvements in attachment security.

This view that a specific focus on attachment is sometimes but not always warranted may explain the finding in this study that attachment variables do not always change before marital satisfaction in behavioral therapy. This conclusion suggests that change in attachment may not be the essential mechanism of therapeutic change in all types of couple therapy. Instead, secure attachment may be a secondary result of an overall improvement in

the relationship, or perhaps the result of some third variable that is being partially captured by the variable of marital satisfaction. As Lebow, Chambers, Christensen, and Johnson (2012) note, couples are also likely to show individual differences in which interventions they respond to best and thus the mechanisms of change may also differ across couples.

In summary, these results indicate that attachment security can and often does improve following behavioral (rather than attachment-based) couple therapy. Indeed, the trends for some influence of early change in attachment style on later marital satisfaction indicate that behavioral interventions with some study couples did alter their attachment styles first, despite the lack of explicit attention to attachment material. However, the findings of stronger relationships between early changes in marital satisfaction and later changes in attachment style (even through two-year follow-up) indicate that what primarily occurred for these couples was an improvement in satisfaction with their relationships (due to behavioral couple therapy), followed by a more general increase in global attachment security. Therefore, it appears that behavioral interventions aimed at improving marital satisfaction or other components of marital quality may have secondary effects on attachment, without any requirement that attachment be explicitly targeted. This may simply indicate that some of the mechanisms of change in TBCT/IBCT and EFT are different, while some of the mechanisms most likely are the same (Gurman, 2011). Alternatively, it may indicate that the theoretically expected mechanisms of change in some couple therapies are not what is in actuality most predictive of relationship improvements. Additional research is needed to determine more clearly what types of change are needed for couple therapy to be a success (see Doss, 2004) and whether multiple pathways to greater relationship health are possible.

Acknowledgments

This research was supported by National Institute of Mental Health Grant MH56223, awarded to Andrew Christensen at the University of California, Los Angeles, and Grant MH56165, awarded to Neil S. Jacobson at the University of Washington. After Jacobson's death in 1999, William George served as principal investigator at the University of Washington.

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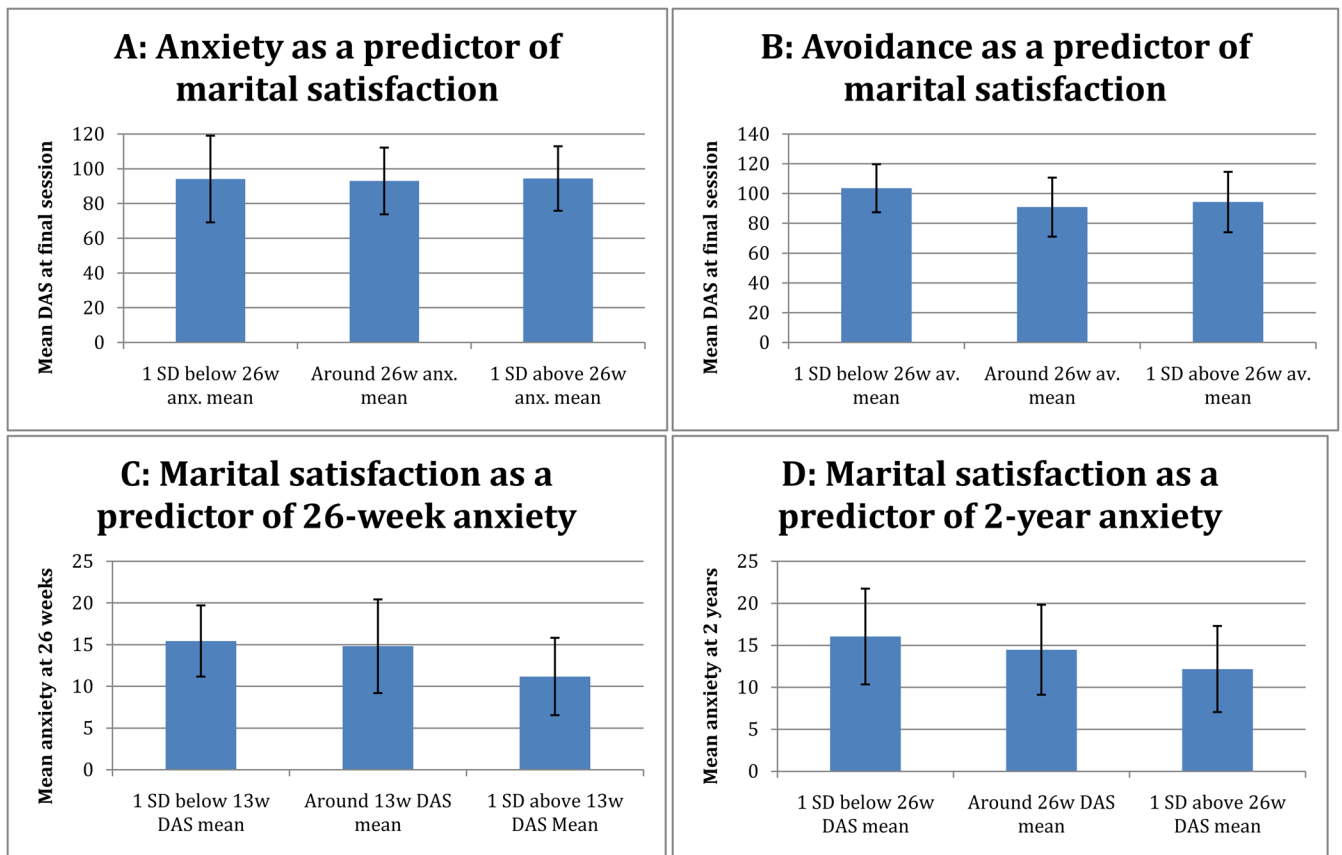


Figure 1. Illustrating the results of four multilevel models by depicting the mean value of the dependent variable at high, mean, and low values of the predictor variable

Notes: The heights of the bars represent the mean value of the dependent variable for a group with a mean level of the predictor variable, a high (one standard deviation above the mean) level of the predictor variable, or a low (one standard deviation below the mean) level of the predictor variable. These values are indicative of the findings from the multilevel models (see Table 3). Error bars represent standard deviations.

Table 1

Descriptive statistics for the Anxiety and Avoidance dimensions of the Adult Attachment Scale (AAS), together with the Dyadic Adjustment Scale (DAS).

	Pre-treatment	26 weeks	2 years	5 years
Anxiety				
Mean (SD)	15.06 (5.44)	14.38 (5.39)	14.41 (5.44)	14.36 (5.44)
<i>N</i>	201	151	221	191
<i>r^a</i>	-0.212**	-0.152	-0.239**	-0.273**
Avoidance				
Mean (SD)	32.75 (7.76)	32.42 (8.62)	31.79 (8.65)	31.59 (9.14)
<i>N</i>	201	151	221	192
<i>r^a</i>	-0.151*	-0.119	-0.051	-0.125
Marital Satisfaction				
Mean (SD)	84.60 (14.45)	92.76 (18.45)	96.63 (17.30)	97.07 (18.00)
<i>N</i>	268	246	200	164

Note:

* $p < .05$,

** $p < .01$;

^aCorrelations are between Anxiety/Avoidance (AAS) and Marital Satisfaction (DAS) at the given time point.

Table 2

Results from multilevel models of change in attachment-related anxiety and attachment-related avoidance during treatment and five-year follow-up.

Model/Outcome	Anxiety	Avoidance
Fixed effects	b (SE)	b (SE)
<i>n</i>	91	91
Intercept, γ_{000}	14.88** (0.47)	32.55** (0.59)
x Treatment, γ_{001}	0.18 (0.80)	0.21 (1.068)
x Separation, γ_{002}	-0.14 (0.94)	0.22 (1.18)
Gender, γ_{010}	0.24 (0.69)	2.89* (1.20)
x Treatment, γ_{011}	-3.13* (1.33)	-7.30** (2.20)
x Separation, γ_{012}	-0.96 (1.37)	0.10 (2.42)
Time Slope, γ_{100}	-0.053 (0.062)	-0.056 (0.091)
x Treatment, γ_{101}	-0.017 (0.085)	0.15 (0.14)
x Separation, γ_{102}	0.045 (0.12)	0.056 (0.18)
Time Slope x Gender, γ_{110}	-0.012 (0.11)	-0.21 (0.16)
x Treatment, γ_{111}	0.15 (0.17)	0.53* (0.25)
x Separation, γ_{112}	0.11 (0.23)	0.17 (0.32)
Random effects	Variance (SD)	Variance (SD)
Intercept, r_0	12.59 (3.55)**	35.03 (5.92)**
Time slope, r_1	0.044 (0.21)	0.047 (0.22)
L1 Residual, e	11.79 (3.43)	31.43 (5.61)

Note:

* $p < .05$,

** $p < .01$. Anxiety and avoidance are measured using the Adult Attachment Scale (AAS).

Table 3

Results from multilevel models of marital satisfaction (DAS), attachment-related anxiety, and attachment-related avoidance.

Model/Outcome	DAS at final session		Anx at 26 w		Av at 26 w		DAS at 2 y		Anx at 2 y		Anx at 5 y	
Fixed effects	b (SE)		b (SE)		b (SE)		b (SE)		b (SE)		b (SE)	
<i>n</i>	150		174		174		180		172		180	
Intercept	92.70 ^{**b} (2.29)		14.19 ^{**a} (.41)		31.66 ^{**b} (.47)		90.64 ^{**} (5.35)		14.59 ^{**} (.34)		13.95 ^{**} (1.044)	
Gender	4.34 (2.69)		.38 ^a (.75)		-.31 (1.038)		1.35 (5.35)		.57 (.62)		-2.63 (1.77)	
DAS at pretx	0.60 ^{**} (.16)		.014 (.034)		-.068 (.048)		0.16 ^a (.24)		.067 [*] (.028)		-0.014 (.085)	
Anx at pretx	0.25 (.41)		.54 ^{**} (.076)		.078 ^a (.10)		-.077 (1.86)		.50 ^{**b} (.11)		.38 (.13) [*]	
Av at pretx	.61 ^b (.35)		.077 (.062)		.74 ^{**b} (.082)		1.26 (.99)		.037 (.065)		.084 (.15)	
Partner Anx at pretx	.25(.46)		.038 (.067)		.035 ^b (.10)		-2.00 (1.16)		.13 ^{**a} (.068)		.14 (.14)	
Partner Av at pretx	.57 (.43)		.076 (.055)		-.020 ^b (.078)		-0.017 (.72)		-0.17 [*] (0.075)		-0.0023 ^b (.13)	
DAS at 13w	-----		-.062 [*] (.025)		.00033 (.040)		-----		-----		-----	
DAS at 26w	-----		-----		-----		.47 (.40)		-0.040 [*] (.02)		.029 ^b (.036)	
Anx at 26w	-0.64 (.35)		-----		-----		-0.76 (.79)		.28 ^{*b} (.10)		-0.12 ^b (.14)	
Av at 26 w	-0.64 ^b (.37)		-----		-----		.092 (.96)		0.17 ^{*b} (.071)		.041 (.17)	
PartAnx at 26w	-0.55 (.41)		-----		-----		1.20 (1.18)		.054 ^a (.081)		.063 (.22)	
PartAv at 26w	-0.37 (.39)		-----		-----		.54 (.59)		.10 ^{ab} (.073)		-0.21 ^b (.13)	
Random effects	Variance (SD)		Variance (SD)		Variance (SD)		Variance (SD)		Variance (SD)		Variance (SD)	
Intercept, <i>r</i> ₀	111.97 (10.58) ^{**}		2.03 (1.43)		2.60 (1.61)		128.63 (11.34)		0.58 (0.76)		0.27 (0.52)	
L1 Residual, <i>e</i>	159.10 (12.61)		14.46 (3.80)		29.72 (5.45)		65.31 (8.08)		10.46 (3.23)		18.41 (4.29)	

Notes:

* $p < .05$,

** $p < .01$,

^a designates a significant interaction with treatment,

^b designates a significant interaction with relationship status; please write to first author for details of these interactions. Anxiety and avoidance are measured using the Adult Attachment Scale (AAS). Marital satisfaction is measured using the Dyadic Adjustment Scale (DAS). Data was collected at pre-treatment (pretx), thirteen weeks (13 w), 26 weeks (26 w), two years after therapy termination (2 y), and five years after termination (5 y).