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Attachment Change in Emotionally Focused Couple Therapy and Sexual Satisfaction Outcomes in a Two-year Follow-up Study

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ABSTRACT

Emotionally focused couple therapy (EFT) is an empirically validated attachment based approach to couple therapy. From an EFT perspective, sexual functioning is viewed within the context of an attachment bond, but sexual satisfaction in EFT has not been empirically tested. We examined self-reported sexual satisfaction across 24 months in a sample of 32 couples who received an average of 21 EFT sessions. We found that sexual satisfaction increased across six time points from pre to post therapy and across follow-up (6, 12, 18, and 24 months), and that decreases in attachment avoidance from pre to post therapy predicted increases in sexual satisfaction across time. These findings provide evidence that EFT may help couples improve their sexual satisfaction by reducing attachment avoidance in therapy.

KEYWORDS

Emotionally focused therapy; sexual satisfaction; attachment; hierarchical linear modeling

Couples in relationship distress frequently cite concerns with their sexual relationship (Boisvert, Wright, Tremblay, & McDuff, 2011). While happy couples attribute 15–20% of their happiness in the relationship to a satisfying sex life, couples in distressed relationships attribute 50–70% of their distress to sexual problems (McCarthy & McCarthy, 2003). There has been a growing awareness of the interconnected nature of relationship and sexual functioning in couple relationships on the part of couple and sex therapists generally (Leiblum, 2007; McCarthy & Thestrup 2008), and in emotionally focused couple therapy (EFT) specifically (Johnson & Zuccarini, 2010). In terms of research attention to sexual functioning in

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EFT, a preliminary controlled study of sexual satisfaction in EFT for couples in which the female partner reported inhibited sexual desire found that couples EFT resulted in improved sexual desire and a decrease in depressive symptoms (MacPhee, Johnson, & Van der Veer, 1995). Since the time this study was conducted, an integrated understanding of the sexual relationship in the context of the attachment bond from an EFT perspective has been more explicitly outlined and integrated into EFT practice (Johnson & Zuccarini, 2010). The goal of the current study is to examine self-reported sexual satisfaction, attachment anxiety and avoidance, and relationship satisfaction among couples receiving EFT and across 2 years after therapy has ended.

Sexual satisfaction and relationship satisfaction

Sex serves a variety of functions in relationships. It can be a way for couples to express affection, explore and experience intimacy, satisfy desire, lessen tension, restore connection after conflict, and shape personal and relational meaning (Metz & McCarthy 2007). Researchers have found that sexual interest and arousal tend to foster interest in forming and maintaining close relationships, including increased self-disclosure, intimacy-related thoughts, willingness to make sacrifices for a romantic partner, and greater wanting to resolve conflict in positive ways (Gillath, Mikulincer, Birnbaum, & Shaver, 2008). In contrast, marital dissatisfaction and ongoing unresolved conflict may also be barriers to quality sexual experiences (Metz & Epstein, 2002). Sexual functioning and relationship functioning are inextricably linked and bidirectionally influential in couple relationships (Brezsnyak & Whisman, 2004; McNulty, Wenner, & Fisher, 2016). In a longitudinal study of the first 4–5 years of marriage, McNulty et al. (2016) examined relationship satisfaction and sexual satisfaction across eight assessment waves. They found that higher levels of relationship satisfaction at one assessment wave predicted more positive changes in sexual satisfaction from that assessment wave to the next and vice versa. Edwards and Booth (1994) conducted a 3-year longitudinal study with married couples and found that changes in sexual satisfaction correlated with changes in relationship quality, and that declines in sexual satisfaction were associated with increased divorce probability. Furthermore, sexual satisfaction predicts greater emotional intimacy in romantic relationships (Yoo, Bartle-Haring, Day, & Gangamma, 2014). Therapies for treating men with sexual dysfunction also seem to be most effective when they include relational concerns and attention to the interpersonal difficulties expressed (Stravynski et al., 1997).

Sexual satisfaction and attachment security

From the perspective of attachment theory, the security of the attachment bond between partners will have an impact on the sexual relationship, and sexual experiences can have a significant impact on attachment security in the relationship (Mikulincer & Shaver, 2003). Although, behaviorally, sex and attachment can occur separately, typically romantic partners function both as sexual partners and as attachment figures (Birnbaum, 2007). A secure attachment bond provides a safe haven when distressed, and a secure base from which to explore. Attachment theory asserts that a securely attached partner in a relationship would be more confident and comfortable with his or her partner during moments of sex and intimacy, and better able to deal collaboratively with differences in preferences and desire (Johnson & Zuccarini 2010).

Research has demonstrated associations between attachment styles and specific ways of approaching and behaving in sexual relationships. Research has shown that attachment security is associated with better sexual functioning (Mikulincer & Shaver, 2007). Optimally secure sex can be conceptualized as examples of effective interdependence in which both partners' needs are attended to, resulting in mutual satisfaction (Mikulincer & Shaver 2007). Individuals with secure attachment styles also seem to be notably more effective at emotion regulation—an ability that is now understood to be important in optimal sexual satisfaction (Sprecher & Cate, 2004). A secure attachment style is associated with greater flexible adaptation to new situations and exploration of novel environments (Mikulincer & Shaver, 2007).

Conversely, insecure attachment styles have been linked with fewer positive sexual feelings and more negative ones across multiple studies (Birnbaum, Reis, Mikulincer, Gillath, & Orpaz, 2006; Brassard, Shaver, & Lussier, 2007; Gentzler & Kerns, 2004). There are two main styles of attachment insecurity that are typically measured on two dimensions, attachment anxiety and attachment avoidance. High levels of attachment anxiety involve worrying about the availability of close others, whereas high levels of attachment avoidance involve an inflated sense of independence and denial of attachment needs. The ways in which individuals with insecure attachment styles assess or describe their sexual encounters appear to differ. Unsatisfying or negative sexual experiences, for example, tended to be expressed differently depending on attachment style. Individuals high on attachment anxiety were reported to emphasize emotional dissatisfactions that occurred during sex, whereas individuals high on attachment avoidance were more likely to describe the physical aspects of sex that were dissatisfying (Davis et al., 2006). Furthermore, those with high attachment anxiety tend to use sex more readily as a tool for determining the status of

their relationship relative to other attachment styles. As a result, sex for anxiously attached individuals was more likely to increase emotional appraisals (such as feeling loved), be used to sustain a relationship (thus avoiding abandonment), or be used as a way to coax a partner's love and affection (Davis, Shaver, & Vernon, 2004). Partners with high attachment anxiety generally weigh these daily relational and sexual events more heavily in their view of the relationship than do securely attached partners (Campbell, Simpson, Boldry, & Kashy, 2005). Higher levels of attachment anxiety are associated with having sex to reduce insecurity or facilitate closeness in a relationship (Schachner & Shaver, 2004).

Individuals with high attachment avoidance have been found to have sex as a means to bolster personal opinions of themselves (attractiveness etc.) and incur bragging rights (Davis, Shaver & Vernon, 2004; Schachner & Shaver, 2004). Those individuals also more readily rely on self-pleasing mechanisms, including higher levels of masturbation and increased levels of fantasizing about persons other than their partner (Bogaert & Sadava, 2002; Gentzler & Kerns, 2004). In light of this, it has also been assessed that individuals high in attachment avoidance generally are less likely to engage in sex for the formation and promotion of relational closeness or emotional connectedness. Sexual interactions in this way are typified by less intimate copulatory positions, and a less positive view of affectionate behaviors such as kissing, cuddling, and so on (Brennan, Wu, & Loev, 1998). Generally speaking, highly avoidant individuals are more likely to engage in sex to maximize control and dominance and avoid closeness and emotional accessibility (Birnbaum, 2007). This evidence seems to suggest that highly avoidant individuals tend to limit the level of emotional intimacy in sexual encounters.

Higher levels of attachment anxiety and avoidance are associated with a greater tendency to perceive that their partner controls sex in the relationship and that the sexual outcome is dependent primarily on situational contributions and factors (Bogaert & Sadava, 2002; Feeney, Peterson, Gallois, & Terry, 2000; Shafer, 2001). Despite this, those with insecure attachment styles also have much stronger concerns about their sexual performance and are less willing to experiment sexually with their partner (Birnbaum et al., 2006). This is further compounded by the reality that insecure partners also are more likely to report problems in sexual communication (Davis et al., 2006).

Attachment and sexual satisfaction in emotionally focused therapy

EFT is a well-validated, attachment-based approach to couple therapy that conceptualizes relationship distress as the result of an insecure attachment

bond (Johnson et al., 1999; Wiebe & Johnson, 2016). EFT research has demonstrated strong outcome (Burgess Moser et al., 2016; Johnson et al., 1999; Makinen & Johnson, 2006) and follow-up results (Cloutier, Manion, Walker, & Johnson, 2002; Halchuk, Makinen, & Johnson, 2010; Wiebe et al., 2017a). Furthermore, research has demonstrated that EFT is effective in helping couples create more secure attachment bonds that last over the years following completion of therapy (Burgess Moser et al. 2016; Wiebe et al., 2017a). EFT is carried out in three stages. The first stage, *cycle de-escalation*, involves helping couples gain an understanding of their negative cycle of conflict, particularly underlying attachment needs and fears. The second stage of EFT, *restructuring attachment interactions*, involves helping couples explore and express to one another their attachment needs and emotions. The third stage, *consolidation and integration*, involves helping the two people bring their new understanding of one another and the relationship into their everyday lives as they strive to resolve sources of conflict and areas of concern.

In general, a secure attachment style has been found to be associated with positive feelings, trust, and greater relationship satisfaction in relationships (Brassard, Lussier, & Shaver, 2009). Those with a secure attachment style are more likely to be able to assert their need for support to their partner (Collins & Feeney, 2013). Secure attachment also extends to how a person approaches emotional risk taking, which results in greater ability to provide emotional support for others (Simpson, Rholes, Orina, & Grich, 2002), which holds implications for optimal sexual functioning. According to attachment theory, attachment styles develop in the context of relationships and impact ways of being in those relationships. In EFT, therapists help couples create a secure attachment bond in the specific couple relationships through the use of experiential and systemic interventions to help partners explore and express attachment-related emotions and needs to one another and foster empathic responding in structured conversations (Johnson, 2004).

Johnson and Zuccarini (2010) outline in detail the ways in which EFT can help couples improve their sexual relationships, which begins with viewing the couple's sexual relationship from an attachment lens. In so doing, the EFT therapist is able to recognize and account for the power of sexual responses in defining the quality of the love relationship, thus working with the couple to specifically address the difficulties in their sex life as a part of repairing the relationship. From an understanding of the associations between attachment insecurity and sex, proponents of EFT propose three kinds of sex: "sealed-off sex," "solace sex," and "synchrony sex" (Johnson, 2008). "Sealed-off sex" involves pleasure seeking without attention to the relationship, a tendency of more avoidant partners. In contrast,

"solace sex" is characterized by seeking sex as a way of soothing anxieties or insecurities in the relationship, as is common among more anxiously attached partners. "Synchrony sex," from an EFT perspective, is characteristic of attachment security and involves a focus on the relationship and sexual pleasure, bringing the two together. This style of sex combines pleasure seeking with emotional intimacy and relationship building. This kind of sex involves seeking new experiences, feeling safe enough to ask for one's sexual needs to be met, and responding to one's partner's needs in an attuned way (Johnson, 2008).

The current study

With attachment styles shown to be malleable through the process of emotionally focused therapy and mounting evidence that the sexual system is linked to that of relationship satisfaction and attachment security, it is crucial to explore these systems further as they play out in couples who receive therapy. The current study is an examination of sexual satisfaction among couples who receive EFT. Using hierarchical linear modeling (HLM; Raudenbusch & Bryk, 2002; Singer & Willett, 2003), we map the trajectory of sexual satisfaction at pretherapy, posttherapy, and 6, 12, 18, and 24 months follow-up. We also examine changes in attachment and relationship satisfaction from pre to post therapy as predictors of sexual satisfaction in follow-up. This is the first study to examine change in sexual satisfaction in outcome and follow-up in a sample of distressed couples completing EFT.

Hypotheses

The following hypotheses are tested: (a) Self-reported sexual satisfaction will show significant increases from pre to post therapy that will remain stable across follow-up. (b) Increases in relationship satisfaction scores from pre to post therapy will predict higher sexual satisfaction across all time points. (c) Decreases in attachment anxiety and avoidance scores from pre to post therapy will predict higher sexual satisfaction across all time points.

Method

Participants

We recruited 32 distressed couples from the community through advertisements in local newspapers and online. Couples had to be living together for at least 1 year. The majority (94%) of couples were married, with four

couples living together but not married (12.5%). Average relationship length was 17.67 years. The mean age of participants was 44.97 ($SD = 1.52$) and 44.30 ($SD = 1.18$) years for men and women, respectively. The majority of individuals identified as Caucasian (93.8%), and reported English as their first language (76.6%). Most individuals (93.4%) had attained postsecondary education. The average individual income was $75,886.76 ($SD = 60{,}103.41$).

Inclusion and exclusion criteria

Individuals had to be between 25 and 65 years of age, and living together for at least 1 year. They had to be classified as mildly to moderately distressed on the Dyadic Adjustment Scale (DAS; Spanier, 1976), and insecurely attached on the Experiences in Close Relationships Scale (ECR; Brennan, Clark, & Shaver, 1998), defined as being outside the 95% confidence interval range using norms from the literature (Shaver, Schachner, & Mikulincer, 2005). Individuals were excluded if they had been diagnosed in the past with a psychotic disorder, were at current risk of substance abuse, had a history of physical or sexual abuse, or if there was physical violence in the relationship (for screening criteria see Dalgleish et al., 2015). Participants were also ineligible if they did not meet criteria for a larger functional magnetic resonance imaging (fMRI) portion of the study (Johnson et al., 2013).

Measures

The Dyadic Adjustment Scale (DAS)

The DAS (Spanier, 1976) is a 32-item measure of romantic relationship satisfaction on which partners are asked to rate the occurrence of both relationship disagreements and positive relationship exchanges on 2- to 6-point Likert scales. Total sum scores range from 0 to 150, with higher scores indicating higher relationship satisfaction. In the original development of this measure, Spanier (1976) reported a high degree of internal consistency reliability ($\alpha = .96$) and norms of 114.8 ($SD = 17.8$) for married couples and 70.7 for divorcing couples ($SD = 23.8$; Spanier, 1976). Jacobson, Schmaling, and Holtzworth-Munroe (1987) established a clinical cutoff score of 97 for marital distress. High internal consistency reliability (South, Krueger, & Iacono, 2009) and test–retest reliability (Carey, Spector, Lantinga, & Krauss, 1993) have been established. In the current study the internal consistency reliability across time points varied in the range $\alpha = .85$–$.95$.

Experiences in Close Relationships Questionnaire—Revised for Specific Relationships (ECR-RSR)

The Experiences in Close Relationships Questionnaire—Revised for Specific Relationships (ECR-RSR) consists of 36 items designed to measure general romantic attachment styles along two well-validated dimensions, attachment anxiety and attachment avoidance (ECR; Brennan et al., 1998; Sibley, Fischer & Liu, 2005). The ECR-RSR is a revised version of this measure, developed in consultation with Dr. Shaver (personal communication, 2006). The revisions consisted of instructing partners to think about their current partner rather than romantic partners in general (i.e., Attachment avoidance: *I get uncomfortable when my partner wants to be very close*; Attachment anxiety: *I worry that my partner won't care about me as much as I care about them*). Brennan et al. (1998) reported internal reliability alphas of .94 for the avoidance scale and .91 for the anxiety scale. In addition, the authors found the ECR to have high convergent validity with other measures of attachment security. Test–retest reliability coefficients of $r = .82$ and $r = .86$ have been found for anxiety and avoidance subscales, respectively, after a 1̀-month period (Wei, Russell, Mallinckrodt, & Vogel, 2007). We found internal consistency coefficients of $\alpha = .86$–$.92$ and $\alpha = .89$–$.95$ across time points for the anxiety and avoidance subscales, respectively.

The Global Measure of Sexual Satisfaction (GMSEX)

This measure (Lawrance & Byers, 1998) contains five items that assess respondents' ratings of their sexual relationship with their partner on a 7-point scale on dichotomous dimensions, including (a) very good versus very bad, (b) very pleasant versus very unpleasant, (c) very positive versus very negative, (d) very satisfying versus very unsatisfying, and (e) very valuable versus very worthless. The scale yields an average score ranging from 1 to 7. Scores on the Global Measure of Sexual Satisfaction (GMSEX) have been found to significantly correlated ($r = -.67$, $p < .001$) with scores on the Index of Sexual Satisfaction (Hudson, Harrison, & Crosscup, 1981), indicating convergent reliability.

Procedure

Therapeutic intervention

Each couple was randomly assigned to a therapist from a group of 13 psychologists and social workers experienced in the delivery of EFT (at least 5 years of experience) for couples at a local private practice in Ottawa, Ontario. The mean number of sessions was 21, the range of which was 8 to 35 sessions. The time span was 2 to 8 months of therapy.

EFT was carried out according to the intervention manual, *Creating Connection* (Johnson, 2004)—as per the manual, sexual interactions are discussed in sessions as these issues are raised by the couple and are framed in terms of the attachment needs and primary emotions involved; however, no special attention was given to sexual interactions in EFT for the current study. In order to ensure the therapeutic model of EFT was being followed, Dr. Susan Johnson, one of the originators of EFT for couples, closely supervised therapists. Adherence to the EFT model was also examined using an implementation check, in which two independent graduate student coders rated 10-minute segments, 30 minutes into each therapy session.

Compensation

For the first phase of the study, each couple was paid $20.00 per hour of participation in research sessions, including pretherapy and posttherapy assessments plus two fMRI research sessions in the initial phase of the study. Couples did not pay for therapy sessions. Couples were also compensated $50 for completing each follow-up time point (6, 12, 18, and 24 months).

Missing data

Due to a delay in adding the Global Measure of Sexual Satisfaction (GMSEX) to the study protocol, a portion of couples who completed the rest of the questionnaires did not complete the GMSEX questionnaire at the pre and post time points. Out of the 64 individuals who enrolled in the study, 75% were administered the GMSEX at the pretherapy time point, and 81% were given the GMSEX at the posttherapy time point. The GMSEX was added to all of the follow-up questionnaire packages. The completion rates of individuals at the follow-up time points were 76.56% ($n = 49$) at 6 months, 70.31% ($n = 45$) at 12 months, 62.5% ($n = 40$) at 18 months, and 53.13% ($n = 31$) at 24 months.

Data analysis

Hierarchical linear modeling (HLM) was used for all data analyses (Raudenbush & Bryk, 2002; Singer & Willett, 2003; Tasca & Gallop, 2009). We examined repeated measures across time (level 1) nested within individuals (level 2), and individuals nested within couples (level 3). See the supplemental file for HLM models.

There were several advantages to using HLM in the current study: (a) HLM accounts well for missing data, which was an issue in our longitudinal study, and HLM uses all data from each participant, allowing for reliable parameter estimation for each participant, even when there are data missing, but only when the data are considered missing at random

(Gueorguieva & Krystal, 2004); (b) HLM provides a more accurate estimation of regression coefficients and error variances for data that are nested as it accounts for the interdependent nature of the data (i.e., within a couple, across multiple time points; Atkins, 2005); (c) HLM allows for data to be modeled flexibly across time such that waves of data that roll in at different times can be accounted for rather than grouping the data by static time points; and (d) HLM lends itself to the investigation of nonlinear change, which was important for our study as it was unlikely that couples' changes would continue to increase in a linear way after therapy was completed (Atkins, 2005).

We estimated a logarithmic slope for sexual satisfaction, indicating an initial linear increase from pre to post therapy that continues at a decelerated rate through follow-up. We fixed the error term at level 2 as recommended by Atkins (2005) for couple data because it is likely that slopes within the couple unit would be similar, and we were not interested in any differences between individuals with the couple unit. We calculated effect sizes using the pseudo R^2, a measure of effect size that takes into account the structure of multilevel analyses (Singer & Willett, 2003). We built higher level models from lower level models, as recommended in the literature (Raudenbush & Bryk, 2002; Singer & Willett, 2003). The intercepts-only model (containing only the dependent variable) was compared with an unconditional model including only the logarithmic slope as a predictor in the model. Then we compared the unconditional model with the addition of predictors in the model at level 3 (pre to post therapy change). We determined that a more complex model was a significantly better fit to the data than a simpler model if the deviance statistic was significantly lower in a chi-squared significance test.

Change scores from pre to post therapy were calculated using a residual change score. The residual change scores are more reliable than a difference score as they represent change in sexual satisfaction from pre to post therapy, accounting for expected change due to measurement error.

There were missing data at various time points due to gaps in administration of the GMSEX measure, as well as participants missing some follow-up time points. We investigated whether the data were missing at random using pattern-mixture models (Hedeker & Gibbons, 1997) to assess whether GMSEX scores were dependent on missing data by modeling for the pattern of missing data in the second level of the models as predictors of the slope. If these models were not significant, the data were considered to be missing at random (MAR).

Results

Preliminary analyses

Means and standard deviations for all variables are provided in Table 1. We carried out a pattern-mixture model and determined that the growth

Table 1. Means and standard deviations of independent and dependent variables.

	Pre therapy	Post therapy	6 months	12 months	18 months	2 years
Relationship satisfaction	87.96 (8.34)	99.67 (14.93)	94.44 (20.22)	96.10 (21.98)	96.93 (22.11)	96.24 (21.52)
Attachment anxiety	3.92 (.61)	3.49 (.87)	3.47 (.73)	3.33 (.74)	3.22 (.91)	3.23 (.90)
Attachment avoidance	3.48 (.77)	3.09 (.86)	3.21 (1.05)	3.13 (1.08)	3.22 (1.16)	3.13 (1.14)
Sexual satisfaction	3.72 (1.27)	4.56 (1.45)	4.27 (1.75)	4.45 (1.69)	4.35 (1.54)	4.80 (1.54)

curve of sexual satisfaction scores was not significantly predicted by missing data at any time point. Therefore, we considered the data to be missing at random (MAR) and did not control for missingness in any of the analyses.

Hierarchical linear modeling (HLM)

As this was the first study to examine couples' sexual satisfaction outcomes across follow-up, we tested linear, logarithmic, and quadratic slopes for the dependent variable, sexual satisfaction. The deviance statistics indicated that the logarithmic time parameter was a significantly better fit to the data than either linear or quadratic parameters. Due to the high correlation between the intercept and slope, pretherapy sexual satisfaction scores were controlled for throughout the analyses.

Sexual satisfaction

The unconditional model demonstrated a significant logarithmic slope across weeks, suggesting that couples demonstrated gains in sexual satisfaction from pre to post therapy that decelerated to a slower rate during follow-up, controlling for pretherapy levels, as shown in Table 2. This translated into increases of .18 points on the GMSEX per exponential increment of weeks—that is, as weeks from pretherapy doubled, the scored of couples increased on average by .18 points. The pseudo R^2 statistic indicated that the logarithmic parameter explained 55.89% of the variance within couples' scores across time, representing a large effect size (Cohen, 1992). Comparison of deviance statistics indicated that the addition of the logarithmic transformation of the time parameter as a predictor in the model resulted in a significantly better fit to the data than the intercepts-only model (Table 2).

Relationship satisfaction

Change in relationship satisfaction from pre to post therapy was calculated using an unstandardized residual change score, and was entered as a predictor in the model at level 3 (the couple level). Results indicated that change in relationship satisfaction in therapy significantly predicted GMSEX scores across follow-up, indicating that improvements in

Table 2. Fitted multilevel models summarizing how selected relationship outcomes depend on the passage of time and on change in relationship satisfaction and attachment.

	Coefficient	SE	*t*	*df*	*p*	Deviance
Model A: Unconditional model						
Intercept γ_{000}	3.80	0.035	107.30	22	<.001	
Log slope γ_{100}	0.18	0.047	3.85	22	<.001	
Pretherapy sexual satisfaction γ_{101}	−0.38	0.038	−9.82	22	<.001	656.51
Model B: Relationship satisfaction change						
Intercept γ_{000}	3.80	0.034	111.47	21	<.001	
Log slope γ_{100}	0.18	0.042	4.29	21	<.001	
Pretherapy sexual satisfaction γ_{101}	−0.38	0.036	−10.32	21	<.001	
Relationship satisfaction change γ_{102}	0.007	0.003	2.21	21	.038	650.81
Model C: Attachment change						
Intercept γ_{000}	3.80	0.034	113.24	20	<.001	
Log slope γ_{100}	0.18	0.04	0.46	20	<.001	
Pretherapy sexual satisfaction γ_{101}	−0.35	0.035	−9.88	20		
Attachment anxiety change γ_{102}	0.045	0.08	0.56	20	.581	
Attachment avoidance change γ_{103}	−0.18	0.069	−2.66	20	.015	645.85
Model D: Relationship satisfaction and attachment						
Intercept γ_{000}	3.80	0.033	113.37	19	<.001	
Log slope γ_{100}	0.18	0.039	4.71	19	<.001	
Pretherapy sexual satisfaction γ_{101}	−0.35	0.37	−9.56	19	<.001	
Relationship satisfaction γ_{102}	0.001	0.0050	0.206	19	.839	
Attachment anxiety change γ_{103}	−0.05	0.084	0.59	19	.560	
Attachment avoidance change γ_{104}	−0.17	0.80	−2.16	19	.043	645.76

relationship satisfaction in therapy predicted a log increase in GMSEX scores across time, controlling for pretherapy GMSEX scores. This model neared significance as a better fit to the data above the unconditional model (Table 2).

Attachment anxiety

Change in attachment anxiety from pre to post therapy was also calculated using a residual change score, and was added to the unconditional model at level 3 (the couple level). Results indicated that change in attachment anxiety in therapy did not significantly predict GMSEX scores across follow-up, indicating that reductions in attachment anxiety in therapy did not predict GMSEX scores across time. This model was not a better fit to the data above the unconditional model (Table 2).

Attachment avoidance

Change in attachment avoidance from pre to post therapy was also calculated using a residual change score, and was added as a predictor to the unconditional model at level 3. Results indicated that change in attachment avoidance in therapy was a significant predictor of GMSEX scores across follow-up, indicating that reductions in attachment avoidance in therapy significantly predicted a log increase in GMSEX scores across time, controlling for GMSEX prescores. This model was a significantly better fit to the data above the unconditional model (see Table 2).

Attachment avoidance and relationship satisfaction

An additional analysis was conducted in which relationship satisfaction and attachment avoidance were entered together as predictors of sexual satisfaction across time. Results indicated that change in attachment avoidance was a significant predictor of increases in sexual satisfaction, over and above change in relationship satisfaction. These results indicate that decreases in attachment avoidance in therapy account for variance in sexual satisfaction growth across time over and above increases in relationship satisfaction in therapy (see Table 2).

Discussion

We examined change in relationship satisfaction, attachment anxiety, and attachment avoidance as predictors of sexual satisfaction across pre to post therapy and four follow-up time points (6, 12, 18, and 24 months). We found improvements in sexual satisfaction from pre to post therapy, with decelerated improvements across follow-up time points. We found that improvements in relationship satisfaction from pre to post therapy significantly predicted higher sexual satisfaction across time points. We also found that reductions in attachment avoidance, but not attachment anxiety, significantly predicted improvements in sexual satisfaction across follow-up. Furthermore, when entered into the same model, reductions in attachment avoidance from pre to post therapy predicted higher sexual satisfaction across time points, over and above improvements in relationship satisfaction from pre to post therapy. Taken together, our results suggest that sexual satisfaction may improve in EFT, with lasting improvements across follow-up at a decelerated rate of change, and that reductions in attachment avoidance in EFT may be an important factor in the improvement of sexual satisfaction in EFT.

Sexual satisfaction change in EFT

A previous study of sexual functioning in EFT examined sexual desire in a sample of women who reported inhibited desire, finding that after EFT the women had improved sexual desire as compared to the wait-list control group (MacPhee et al., 1995). However, unexpectedly, they did not find any significant improvements in relationship satisfaction, even though this was the target of change in EFT and even though we would expect a high association between relationship satisfaction and sexual functioning based on the literature (McNulty et al., 2016). One possible explanation for these results is the fact that in their study, Macphee et al. (1995) recruited couples for sexual desire problems, not relationship distress, and thus the sample was not distressed on average, resulting in a possible ceiling effect.

In the current study, we recruited a sample of distressed couples who did not cite sexual concerns explicitly. Our results are consistent with the study by MacPhee et al. (1995) in that we found improvements in couples sexual relationship following EFT; however, we also found improvements in relationship satisfaction. Further, we found that the improvements in relationship satisfaction in EFT predicted improvements in the sexual relationship across 2-year follow-up.

Attachment and sexual satisfaction change

In the current study, reductions in attachment avoidance in EFT significantly predicted long-term improvements in sexual satisfaction. This is consistent with research demonstrating a strong relationship between attachment security and sexual functioning (Birnbaum et al., 2006; Brassard et al., 2007; Gentzler & Kerns, 2004). Although the research demonstrates that both attachment anxiety and avoidance are related to less optimal sexual functioning (Mikulincer & Shaver, 2007), in the current study it was reductions in attachment avoidance in EFT in particular that were predictive of higher sexual satisfaction across time. This is not surprising, given the tendency of attachment anxiety to be related to using sex as a way to increase emotional closeness in the relationship (Davis & Shaver, 2004), whereas attachment avoidance tends to be associated with using sex as a way to obtain personal gains (i.e., pleasure, bragging rights), rather than for the relationship per se (Cooper et al., 2006; Davis, Shaver, & Vernon, 2004; Schachner & Shaver, 2004). In fact, Birnbaum (2007) noted that highly avoidant persons tend to engage in sex to maximize control and dominance and avoid closeness and emotional accessibility (Birnbaum, 2007). Consistent with this view, Péloquin, Brassard, Delisle and Bédard (2013) found that caregiving proximity mediated the association between low attachment avoidance and higher sexual satisfaction and better sexual functioning. Interestingly, they also found that although higher attachment anxiety was associated with compulsive caregiving, this did not significantly impact sexual satisfaction or sexual functioning. The authors considered that EFT may be useful toward helping couples improve sexual satisfaction and sexual functioning by reducing attachment avoidance and fostering caregiving proximity in the relationship. Future research on sexual satisfaction and EFT may incorporate measures of caregiving and responsiveness as well, to further confirm this.

In EFT, closeness and accessibility are directly and explicitly fostered. Perhaps, as partners engaged in EFT, this increased their ability to be accessible and responsive to one another, reducing attachment avoidance across EFT sessions (Burgess Moser et al., 2016), which in turn may have

led to shifts in the couples' sexual relationship such that avoidant tendencies to reduce sexual experiences to individual opportunities for pleasure and control are no longer typical in the way that they once were. Rather, responsiveness and accessibility become the norm in the relationship across domains, including sexual functioning. Further research is needed to confirm that reductions in avoidance strategies and increases in emotional responsiveness in the sexual relationship, as a result of reduced attachment avoidance, are at the root of improved sexual satisfaction.

Clinical implications

The current study provides evidence for the effectiveness of EFT to help couples improve sexual satisfaction over the long term for those who complete therapy, suggesting that EFT may be helpful for couples with diminished sexual satisfaction in addition to relationship distress. Further, improvements in relationship-specific attachment predicted higher relationship satisfaction over the long term, particularly reductions in attachment avoidance, suggesting that reductions in attachment avoidance may be a useful prognostic factor for long-term gains in sexual satisfaction in addition to relationship satisfaction as found by a previous study (Wiebe, Johnson, Burgess Moser, Dalgleish, & Tasca, 2017b). Moreover, this study corroborates new directions in couple therapy research that view caregiving, sex, and attachment as intricately linked with a secure attachment relationship supporting mutual caregiving and satisfying sex (Johnson, Lafontaine & Dalgleish, 2015). Our results suggest that couples who complete EFT may be able to improve their sexual relationship through the creation of a more secure attachment bond. That is, key aspects of a secure bond as fostered in EFT—accessibility, responsiveness, and engagement—may also be key to improving patterns in a couple's sexual interaction as well. Secure attachment may help couples share and openly respond to one another sexually, and be more willing to take risks. If passion is considered as longing for emotional connection and physical contact—an inherent part of attachment relationships—alongside attuned connectedness and willingness to take risks, it is not surprising that restoring a secure connection would allow a couple to connect and play more freely and sensitively, creating more satisfying sexual encounters.

Strengths and limitations

This is the first study to examine change in sexual satisfaction and attachment change in EFT. This is also the first study, to our knowledge, to examine romantic attachment as a factor in sexual satisfaction change.

Furthermore, it is the first study to examine sexual satisfaction in the years after EFT has ended. We examined change across multiple time points and accounted for the nested nature of the data by using hierarchical linear modeling (HLM; Raudenbusch & Bryk, 2002). This study expands the research into sexual satisfaction in couple therapy and the broader field of attachment research as it relates to sexual satisfaction.

This study has limitations, including the lack of a control group, relatively small sample size, and high rate of missing data at follow-up time points. Not having a control group in this study means that we are not able to completely rule out the possibility that changes in sexual satisfaction in this study might have occurred without the EFT intervention. However, it is unlikely that the significant growth curves found in this study through the use of HLM would have occurred because of variations in the data due to chance. Missing data is a ubiquitous concern in longitudinal research, and we attempted to mitigate this concern by using a method of data analysis that estimates reliable parameters for cases even when subsequent time points may be missing, namely, HLM. The sample was also fairly homogeneous, consisting of relatively high socioeconomic status couples, who were mainly Caucasian and exclusively heterosexual, limiting the generalizability of our results. A further limitation was lack of precision in our measure of sexual satisfaction, the GMSEX (Lawrance & Byers, 1998), which measures sexual satisfaction according to subjective rating scales representing the sexual relationship according to five continua: (a) very good versus very bad, (b) very pleasant versus very unpleasant, (c) very positive versus very negative, (d) very satisfying versus very unsatisfying, and (e) very valuable versus very worthless. This does not account for the frequency of sex, which is an important part of sexual satisfaction (Smith et al., 2011), or the importance of sex to the couple relationship. Future research should examine change in sexual satisfaction in EFT using a wait-list-control group, should employ more than one measure of sexual satisfaction to increase precision in the measurement of this construct, and should attempt to recruit a larger sample.

A full examination of sex differences was beyond the scope of the current study; however, this should be examined in the future. Previous research discovered that for male but not female partners, displays of sexual desire predicted reductions in relationship-specific attachment anxiety in their partner and reductions in relationship-specific attachment avoidance in themselves across 8 months (Mizrahi, Hirschberger, Mikulincer, Szepsenwol, & Birnbaum, 2016). In contrast, for female but not male partners, displays of intimacy (i.e., warmth, closeness, and affection) predicted reductions in relationship-specific attachment anxiety and avoidance in their partners across the 8 months. Therefore, the association between

aspects of the sexual relationship and attachment security may differ for male and female partners in heterosexual relationships, and thus the strength, direction, and mediating/moderating factors of the association between attachment change and improvement in relationship satisfaction and sexual satisfaction may differ between male and female partners in EFT. Knowing these specific differences may help EFT therapists further assess prognostic factors in terms of long-term relationship and sexual satisfaction.

Conclusion

In this study, we found that sexual satisfaction increased significantly from pre to post therapy with decelerated changed across 2 years of follow-up for couples receiving EFT. We also found that reductions in attachment avoidance from pre to post therapy significantly predicted higher sexual satisfaction across time points, suggesting that reductions in attachment avoidance (as facilitated through EFT) may be an important factor toward improving sexual satisfaction for couples over the long term. These results also suggest that attachment avoidance may play a significant role in the sexual relationship of distressed couples, and may have value as a target of change to improve sexual satisfaction for these couples. This is particularly relevant given the high concordance between sexual dissatisfaction and relationship distress, and the high importance distressed couples tend to place on sexual dysfunction (McCarthy & McCarthy, 2003). This study serves as an initial step to a closer examination of sexual satisfaction in couple therapy, and EFT in particular, and investigation of the effective ingredients to improve sexual satisfaction for couples. Specifically, this study provides initial evidence that couples who develop a more secure attachment relationship through EFT may use this greater security to strengthen their sexual relationship as well.

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