The Cognitive-Affective and Behavioural Impact of Emotionally Focused Couple Therapy

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To everyone who struggles to be known by the ones they love.

General Abstract

Emotionally Focused Couple Therapy (EFT; Johnson, 2004) addresses relationship distress by facilitating the development of new patterns of interaction between partners. These new patterns of interaction are based on partners' vulnerable acknowledgement and expression of attachment needs. Partners' engagement in these new patterns of interaction is thought to improve their relationship-specific attachment bond. Although previous studies have shown EFT to result in excellent relationship satisfaction outcomes (Johnson, Hunsley, Greenberg & Schindler, 1999), research had yet clearly to demonstrate if and how EFT facilitates increases in partners' relationship-specific models attachment security over the course of therapy.

To address this research gap, the current study employed Hierarchical Linear Modelling (HLM; Singer & Willet, 2003) to investigate the pattern of change in couples' (n=32) self-reported relationship satisfaction and relationship-specific attachment over the course of EFT. Couples reported significant linear increases in their relationship satisfaction and significant linear decreases in their relationship-specific attachment avoidance over the course of therapy. Couples who completed the blamer-softening therapeutic change event (n=16) demonstrated significant linear decreases in their relationship-specific attachment anxiety after completing this event. Decreases in relationship-specific attachment anxiety predicted increases in couples' relationship satisfaction over the course of therapy. Couples also demonstrated significant increases in the security of their pre-post-therapy relationship-specific attachment behaviour, as coded Secure Base Scoring System (Crowell, Treboux, Gao, Fyffe, Pan & Waters, 2002).

The current study also used HLM (Singer & Willet, 2003) to examine how the completion of blamer-softening impacted softened couples' relationship-specific attachment

anxiety, and whether the completion of blamer-softening had a similar impact on softened couples' relationship-specific attachment avoidance and relationship satisfaction. Softened couples reported an immediate increase in relationship satisfaction and immediate decrease relationship-specific attachment avoidance at the softening session. Further, softened couples' post-softening decreases in relationship-specific attachment anxiety were initially preceded by an increase at the softening session.

These results provided an understanding of how EFT leads to increases in couples' relationship-specific attachment security. These results provide support for the use of attachment theory in the treatment of relationship distress, and also provide an illustration of how attachment can shift over the course of a therapeutic intervention.

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Content of Thesis and Contribution of Co-Authors

This thesis contains a general introduction, two articles, a general appendix with additional analyses, and a general discussion. The general introduction includes a detailed literature review, a rationale for the current study, and a description of our data cleaning procedures. The first article, entitled *Changes in Romantic Attachment in Emotionally Focused Couple Therapy* presents the outcome of a psychotherapy intervention. The second article, entitled *The Impact of Blamer-Softening on Romantic Attachment in Emotionally Focused Couple Therapy*, uses psychotherapy process data to link the therapy outcomes presented in the first article with couples' completion of a key therapeutic change event. The general appendix includes additional analyses. The general discussion provides a summary of all the study results and discusses their clinical implications.

Since the two articles were written with publication in mind, the author of the thesis and the thesis supervisor appear as co-authors. Additional co-authors include two committee members and a fellow lab member in the EFT Research Lab. The author of this thesis was directly involved in the every aspect of this study including; study conceptulization and design; research ethics board submissions; recruitment of study couples; data collection; the coding and analysis of the psychotherapy process data, behavioural data coding and HLM data analysis; and, the writing of the articles. The thesis supervisor, Dr. Susan Johnson oversaw every aspect of the dissertation completion. Tracy Dalgleish, a fellow lab member, was also involved with recruiment of study couples, data collection and process therapy coding. Dr. George Tasca contributed to study design and supervised all of the HLM data analysis and interpretation. Dr. Marie-France Lafontaine, a co-author on Article 1, provided training on a behavioural coding measure that was used in this article.

Table of Contents

Article 2

General Introduction

Attachment theorists (Main, Kaplan & Cassidy, 1985, Mikulincer & Shaver, 2007) hold that individuals form habitual styles of interpersonal relating based on their past and current relationship experiences. If individuals feel loved, protected and secure in their relationships then they tend to develop secure attachment. On the other hand, if they feel their partner is unresponsive in times of need, they develop an insecure attachment (Hazan & Shaver, 1987). Insecurely attached individuals are more likely than securely attached individuals to report lower levels of relationship satisfaction, display less responsive caregiving towards their partner, and be less able to articulate their need for support during stressful situations (Collins & Ford, 2011; Davila & Bradbury, 2001; Simpson, Rholes, Orina & Grich, 2002). Attachment researchers hold that models of attachment, although relatively stable, can be modified based on new and consistent interactions with loved ones (Bowlby, 1988; Pietromonaco, Laurenceau, & Feldman-Barrett, 2002).

Emotionally Focused Therapy for Couples (EFT; Johnson, 2004) is an empirically validated treatment based in attachment theory, experiential and systemic therapeutic approaches (Burgess Moser & Johnson, 2008). In EFT, relationship distress is conceptualized as rigid negative interaction patterns fuelled by unmet attachment needs (Johnson & Whiffen, 1999). It is assumed that individuals' expression of their unmet attachment needs to their partner, accompanied by their partner's emotional responsiveness to their vulnerability, serve as new relational experiences for partners (Johnson, 1996/2004). These new experiences are theorized to increase the security of partners' relationship-specific models of attachment, which in turn, increases their levels of relationship satisfaction (Johnson, 2004; Johnson & Best, 2002).

Research has demonstrated that EFT results in excellent martial satisfaction outcomes with a variety of clinical populations (Johnson, Hunsley, Greenberg & Schindler, 1999). However, the underlying assumption that EFT improves the security of the attachment bond between partners remains largely unexamined. The current study tested this assumption and the results are described in two separate articles.

This first article describes the session-by-session changes seen in couples' self-reported relationship satisfaction and relationship-specific attachment insecurity over the course of EFT. A series of time varying co-variate analyses were conducted to investigate significant associations between these variables. The first article also examines pre- and post-therapy differences in couples' relationship-specific attachment behaviour, as measured by the Secure Base Scoring System (Crowell et al., 2002). The second article describes how the completion of a key therapeutic change event in EFT—blamer-softening—was related to the changes in couples' relationship satisfaction and self-reported relationship-specific attachment insecurity.

The present study is the first systematic examination of how individuals' relationship-specific models of attachment change over the course of EFT and how these changes relate to specific therapeutic interventions. As such, the study will provide a test of the attachment-based assumptions of EFT. Understanding the pattern of attachment change over therapy, and delineating the specific types of interventions needed to facilitate changes in relationship-specific models of attachment, will be a significant contribution to the practice of attachment–based therapies and attachment research.

In addition to these contributions, this study represents the first examination of the couples' session-by-session changes in relationship-satisfaction, relationship-specific attachment, trust, and dyadic emotional control over the course of EFT. This was

accomplished using Hierarchical Linear Modelling (Singer & Willet, 2003) for nested longitudinal designs. The use of HLM (Raudenbush & Bryk, 2002) in the present study served three purposes. First, although previous studies have determined that change in marital satisfaction over time can be modelled linearly (Karney & Bradbury, 1997) and change in marital satisfaction over Traditional and Integrative Behavioural Couple Therapy can be modelled curve-linearly and linearly respectively (Christensen et al., 2004), research has never been conducted on the pattern of change in martial satisfaction over the course of EFT. Using HLM in the current study will allow growth curve trajectories to be modelled for not only couples' changes relationship satisfaction, but also for changes in their relationship-specific attachment, trust and dyadic emotional control, over the course of therapy.

Second, the use of HLM will allow for an examination of whether changes in martial satisfaction significantly co-vary with the trajectories of change in attachment avoidance and attachment anxiety over the course of therapy. We were also interested in examining the relation between changes in martial satisfaction and changes in couples' trust and dyadic emotional control.

Third, the use of HLM will also allow an examination of how therapeutic process is tied to therapeutic outcomes. Specifically, the present study examined whether the completion of the blamer-softening change event resulted in significant shifts in the amount of (intercept) and rate of change in (slope of the growth curve models) couples' relationship satisfaction and relationship-specific attachment security.

The following general introduction begins with a review of attachment theory and research, and of the implications of attachment theory in individual and romantic relationship functioning. This introduction also describes research that examines changes in attachment over the course of individual and group therapy. Finally, the theoretical and research basis of

EFT is provided to inform readers how the process of change in EFT is thought to increase partners' relationship-specific models of attachment security. This review leads into a rationale for the current study. Included in this general introduction is our procedure for data cleaning and an explanation of how we treated our missing data.

Attachment Theory: Basic Tenets

Based on his behavioural observations of young children who where either abandoned or neglected by their primary caregivers, John Bowlby (1969/1982) advocated that individuals are born with an innate desire to seek comfort from others in times of distress. This desire is thought to be a primary affect regulation strategy that is organized by individuals' 'attachment behavioural system' (Bowlby, 1969/1982). This system is activated when children are physically or emotionally disconnected from their primary caregivers. In healthy childhood development, the attachment behavioural system is not reciprocal—with children in the position of the careseeker and parents in the position of the caregiver.

Bowlby (1969/1982) proposed that children form internal working models of attachment based on the availability and responsiveness of their primary caregivers to respond to the attachment needs that they express through their attachment behavioural system. These internal working models serve as cognitive templates to determine the likelihood of a response from their caregiver to meet their needs for security and care (Bowlby, 1969/1982). If children's primary caregivers are consistently responsive and available, children feel loved, protected and secure, and subsequently develop a positive internal working model of both themselves and others. These children believe that they are worthy of care and that others are a viable resource for support in times of distress. If children's primary caregivers are unresponsive, unpredictable, and/or consistently unavailable, children tend to develop negative internal working models of themselves and

others. These children believe that they themselves must not be worthy of consistent care and that others are unreliable and untrustworthy resources for support. Bowlby (1969/1982) advocated that these cognitive representations influence children's likelihood of perceiving others as available and responsive to meet their attachment needs in the future.

To test Bowlby's (1969) concept of internal working models of attachment, Ainsworth, Blehar, Waters, and Wall (1978) developed the Strange Situation procedure—a structured research protocol for children and their parents. This procedure exposes children to two distinct separations and reunions with their primary caregiver and a stranger. These separation and reunions were designed to activate children's attachment behavioural system (Bowlby, 1969/1982). According to this measure, individual differences in children's attachment behaviours with their primary caregivers, during these separations and reunions, are thought to be reflective of their internal working models of attachment.

In their original investigations, Ainsworth and colleagues (1978) observed a group of children who displayed signs of missing their primary caregiver when separated from them. These same children were able to display their distress and be comforted by their caregivers during reunions. These children were classified as securely attached. Another group of children were overly distressed upon separation with their caregiver. Upon reunions, these children acted inconsistently, alternating between seeking and resisting contact with their caregiver. Further, these children remained difficult to soothe and comfort. These children were classified with anxious-ambivalent attachment. Finally, Ainsworth et al., (1978) observed another group of children who both did not exhibit distress upon separation with their caregiver and ignored their caregiver upon reunion. These children were classified with avoidant attachment. Main and Solomon (1990) identified a fourth category of attachment behaviour displayed within the Strange Situation procedure—disorganized/disoriented

attachment—to classify those children who tended to act confused upon reunion. Also upon reunion, these children would often seek contact with, and then withdraw from, their caregiver.

It is now understood that children classified with secure attachment in the Strange Situation procedure have parents who are emotionally attuned to their needs—i.e., they are responsive, warm, involved, and sensitive to their children's distress without being overly involved, instructive or rejecting (Belsky & Pasco Fearon, 2008). Further, children with anxious-ambivalent attachment have parents who respond inconsistently to their attachment needs, and children classified with avoidant attachment tend to have parents who are either overly intrusive or rejecting (Belsky & Pasco Fearon, 2008). Children with disorganized/ disorientated attachment are most commonly raised in a physically or sexually abusive environment, where their caregiver acted both as potential threat to their attachment needs, but also a potential resource for support (Lyons-Ruth & Jacobvitz, 1999).

Researchers have also argued the attachment behaviour of children in the Strange Situation Procedure reflects the affect regulation skills taught to them by their primary caregivers (Cassidy, 1994; Vaughn, Bost, & van IJzendoorn, 2008). Specifically, when faced with an open stance towards their negative affect, children with secure attachment gain an understanding and a respect for their affective experiences. Further, these children learn that others can be a viable resource for support, since their parents responded to their attachment needs in a relatively consistent manner (Cassidy, 1994; 2008).

At the same time, when primary attachment figures provide inconsistent, intrusive or rejecting caregiving to their children, they are thought to develop secondary affect regulation strategies (Magai, 1999), or secondary attachment strategies. Specifically, when faced with inconsistent caregiving, children with anxious attachment learn to hyperactivate their cries

for support, in order to get the attention they need and desire. On the other hand, when faced with either intrusive or dismissing caregiving, children with avoidant attachment learn to cope by minimizing, or deactivating, their feelings of distress in an effort to prevent further frustration and/or rejection in seeking support from their misattuned parent.

These secondary attachment strategies help explain the behaviour of children in the Strange Situation Procedure. Specifically, children classified as anxiously attached were unable to be soothed upon reunion—these children were hyperactivating their attachment needs. Children classified as avoidantly attached ignored their caregiver upon reunion –these children were deactivating their attachment needs. Further, the confused behaviour of children with a disorganized/disorientated attachment classification was understood as reflecting a combination of hyperactivated and deactivated attachment strategies (Cassidy, 1994; 2008).

Basic tenets: Summary. These basic tenets of attachment theory demonstrate how the quality of early caregiving can impact the degree and manner in which children learn to regulate their affect in relation to close others. Children whose parents are consistently available and emotionally attuned to their children's attachment needs learn how to cope with strong affect and how to rely on others for support in times of distress. Children whose parents are inconsistent in their caregiving develop a preoccupation with negative affect and learn to hyperactivate their attachment needs to get the support their deserve. Children whose parents are overly controlling or rejecting of their negative affect learn to deactivate their attachment needs and overly rely on themselves rather than seek support from others. These findings generated a large base of empirical research into whether not only adults engaged in similar patterns in their close relationships.

Adult Attachment

The conceptualization of individual differences in adult attachment developed from two different perspectives during the 1980s: the developmental perspective and social-cognitive perspective (Daniel, 2006). The developmental perspective developed from an interest in how well an adult's recollections of their childhood attachment experiences could predict their own children's attachment behaviour in the Strange Situation Procedure (Main, Kaplan & Cassidy, 1985). The social-cognitive perspective, on the other hand, was concerned about investigating the causes of adult loneliness (Hazan & Shaver, 1987). In investigating how individuals' childhood attachment experiences played a role in understanding this phenomenon, researchers from the social-cognitive perspective also found that adult attachment relationships paralleled childhood attachment relationships. However, in adulthood the attachment behavioural system was reciprocal, where both members of the relationship seek and provide support to one another (Shaver, Hazan & Bradshaw, 1988).

Researchers from both these streams agree on the basic tenets of attachment theory, namely, that (i) interactions between children and parents influence the development of internal working models of relationships, and, (ii) these internal working models of attachment influence individuals' cognitive-emotional and behavioural functioning in relationships. Where researchers from these perspectives seem to commonly disagree is whether internal working models function primarily at the conscious or unconscious level (Fraley, 2002), and whether attachment functions like a trait-or state-like construct (Stein, Jacobs, Furguson, Allen & Fonagy, 1998).

According to developmental researchers (e.g., Main, Kaplan & Cassidy, 1985; Treboux, Crowell, & Waters, 2004) internal working models are encoded within the implicit memory during the first year of life leading them to subsequently operate primarily outside

of conscious awareness in the future (Jacobvitz, Curran, & Moller, 2002). Researchers within this perspective have argued that attachment functions as a trait-like construct that is relatively stable over time (Main, Kaplan & Cassidy, 1985; Waters, 1981).

Researchers from the social-cognitive perspective (Brennan, Clark, & Shaver, 1988; Shaver & Mikulincer, 2002) argue that these internal working models of attachment can be represented at both the conscious and unconscious levels. These researchers label individual differences within internal working models as 'attachment orientations'. Researchers from this perspective posit that attachment can demonstrate stability over time, but it can also fluctuate in relation to current relationship experiences or experimental priming procedures (Fraley & Brumbaugh, 2004; Miklincer & Shaver, 2007).

These conceptualization differences have led to debates as to the 'best' method to assess individual differences in attachment. The next section will review the key types of measures typically used by researchers in the two fields. The implication of these conceptual and measurement differences for research examining change in attachment over the course of therapeutic interventions will then be discussed.

Assessing Adult Attachment

Narrative and behavioural interviews. The most frequently used measure that arose from the developmental perspective is the Adult Attachment Interview (AAI; Main et al., 1985). The AAI was originally developed to assess how parents' childhood attachment narratives predicted their own children's behaviour in the Strange Situation Procedure (Daniel, 2006). In this interview adults recount their childhood attachment experiences and how they feel these experiences impact their current functioning in relationships. The coding for the AAI focuses on the degree of coherence and consistency within individuals' attachment-based interview narratives, and in some cases, the degree to which individuals

display an understanding of their own and of others' emotions and behaviour (i.e., reflective functioning). Based on these factors, individuals are classified as having 'secure/autonomous', 'earned secure', 'preoccupied', 'dismissing' or 'disorganized' states of mind with respect to their childhood attachment.

Adults classified as secure/autonomous reveal that the majority of their interactions with their parents were loving and affectionate; however, they are also able to acknowledge and make meaning out of less positive experiences with their parents (Hesse, 2008). Their attachment-based narratives are coded as coherent and consistent and they contain appropriate amounts of detail and are relevant to the context of interview questions (Main et al., 1985). Individuals are classified as earned secure if their attachment narratives are thought to be as consistent and coherent as the narratives of secure/autonomous individuals, but they report experiencing less physical affection or forgiving behaviour from their parents (Hesse, 2008).

Adults classified as preoccupied provide narratives of early attachment experiences that are confused or full of anger with their attachment figures. These individuals typically provide more information than requested during the interview, and have difficulty providing relevant examples of their attachment experiences (Hesse, 2008). Adults classified as dismissing provide incoherent narratives that are derogatory toward childhood attachment experiences. These individuals also either state a lack of memory for attachment related experiences or they tend to idealize their past attachment interactions with parents (Main et al., 1985). Unresolved/disorganized adults offer incoherent and confusing accounts of their childhood attachment experiences. These accounts are typically comprised of high levels of guilt and/or bouts of dissociation (Main & Hesse, 2000).

The attachment classifications of the AAI are thought to reflect individuals' unconscious current states of mind with respect to childhood attachment. These states of mind are derived from how an individual recounts, integrates and understand their past attachment experience and they are thought to organize individuals' unconscious cognitive and affective processes, as well as their attachment-based behaviour in most of their close relationships (Bretherton & Mulholland, 1999**)**. This generalized impact, along with findings which have demonstrated moderate stability in AAI ratings over time, have lead researchers from the developmental perspective to argue that attachment as measured by the AAI, functions as a trait-like construct that is resistant to change (Main et al., 1985; Jacobvitz et al., 2002; Waters, 1981).

The Secure Base Support System (SBSS; Crowell et al., 2002a) is a newly developed measure within the developmental field that codes relationship-specific attachment-based behaviour (i.e., secure base use and secure base support). The theory behind the development of the SBSS holds that interactions between adult romantic partners are functions of an individual's attachment behavioural system. As in childhood, the attachment behavioural system (Bowlby, 1969/1982) is activated when individuals' emotional and physical proximity to their loved one is threatened.

To assess how adults use their partner as a safe haven and secure base during times of distress, partners are introduced into a situation where their attachment system is activated, i.e., a conflict resolution task. For this conflict resolution task, couples are asked to discuss a re-occurring conflict within their relationship for 15 minutes. Their discussion is videotaped and partners are rated on their ability clearly to express their needs to their partner while also to respond to their partners' cues for support (Crowell et al., 2002). According to ratings on this measure, individuals' relationship-specific attachment security is demonstrated through

their ability clearly to express their need for support to their partner, to accept their partner's reasonable attempts to care for them, and to express gratitude to their partner for responding to their needs. These individuals are also able to accurately identify and interpret their partner's distress and respond to their attachment-based insecurities with emotional attunement. Individuals' relationship-specific attachment insecurity is demonstrated through their difficulty clearly expressing their need for support to their partner and through behaviour denoting a lack of confidence in their partner's ability to soothe them. These individuals also have difficulty responding to their partner's distress with emotional attunement, frequently focusing on instrumental or concrete aspects of the conflict instead of the attachment needs underlying their partner's distress.

Similar to codes from the AAI, these coded behaviours are though to be tapping into individuals' unconscious models of attachment. Unlike the AAI, however, these behaviour codes are thought be reflective of individuals' relationship-specific, rather than generalized, internal working models (Crowell et al., 2002).

Self-report measures. Hazan and Shaver (1987) developed one of the first self-report measures of adult attachment. After asking adults open-ended questions about their parental interactions and their current interactions in their romantic relationships, they found that individuals differed in their descriptions of childhood-parent relationships, descriptions of themselves and of others, and in their accounts of romantic experiences, in a manner that was consistent with attachment theory. Based on these results, researchers developed adult analogues for Ainsworth's childhood attachment classifications.

Securely attached individuals were found to appear confident and open, and they described parental relationships as warm and supportive. Trust, happiness, and friendship were reported in their love relationships. Anxiously/ambivalently attached individuals had

low self-confidence and described childhood experiences with parents as being unpredictable and intrusive. Jealousy, emotional highs and lows, and intense sexual desire were characteristic of their love relationships. Avoidantly attached individuals described themselves as being independent and characterized love relationships as being hard to find, and short-lived. They described their parents as being critical, uncaring, and demanding. In their intimate relationships, they reported a fear of closeness and lack of acceptance from their partner (Hazan & Shaver, 1987).

Bartholomew (1990) hypothesized that adult attachment in close relationships was comprised of four, rather than three, different categories of behaviour. She suggested that there were two types of avoidant attachment; fearful and dismissing attachment. She differentiated between these two avoidant types by suggesting that fearful individuals have low-self esteem and do not trust others. Furthermore, they tend to avoid relationships due to their fear of rejection. Dismissing individuals also do not to trust others, however they tend to possess a defensive sense of self-worth, and they tend to avoid relationships in order to maintain their sense independence. She also renamed the anxious-ambivalent category as 'preoccupied' attachment since these individuals were consistently worried about their partner's acceptance in their relationships.

In 1998, Brennan, Clark and Shaver conducted a factor analysis of items drawn from existing self-report measures of attachment and found that the individual differences in attachment reported by previous attachment researchers fell within two different dimensions: attachment anxiety and attachment avoidance. Based on these findings, Brennan et al. (1998) developed a self-report measure of attachment called the Experiences in Close Relationships Scale. According to this measure, individuals high in attachment anxiety tend to desire high levels of intimacy in their relationships and spend a great deal of time worrying about

rejection and abandonment. Conversely, individuals high on attachment avoidance are overly self-reliant, distrustful, and tend to place relationships as secondary.

Using this dimensional approach, attachment security is defined as a low score on both attachment avoidance and anxiety, and attachment insecurity is defined as high scores on attachment anxiety and/or avoidance. When comparing scores from this measure to measures of categorical attachment, preoccupied individuals will have low avoidance and high anxiety; dismissing individuals have high avoidance and low anxiety; and fearful individuals have high avoidance and anxiety. Research has demonstrated that the dimensional approach is methodologically superior to the categorical approach in the assessment of self-reported romantic attachment (Brennan et al., 1998, Fraley & Waller, 1998).

Self-report measures of attachment assess individual differences in adults' consciously reported thoughts, feelings, and behaviour within their close relationships. These self-report measures also assess individual differences in the use of hyperactivating and deactivating affect regulation strategies. As in childhood, anxiously attached adults report engaging in hyperactivating strategies to cope with negative affect—i.e., clinging behaviour, overdependence, and most of all, a strongly held personal belief that negative affect cannot be managed independently (Shaver & Mikulincer, 2002). Also similar to childhood, avoidantly attached adults report engaging in deactivating strategies to cope with negative affect—i.e., include the numbing of affect, the avoidance of emotional involvement, and the denial of the need for intimacy. Again, these deactivating strategies protect the adult from any further frustration arising from seeking support and being rejected by others (Hesse, 1999; Shaver & Mikulincer, 2002).

Researchers from the social-cognitive perspective hold that individuals' conscious relationship experiences and their self-reported use of hyperactivating or deactivating affect regulation strategies can provide enough accurate information to distinguish between individuals' unconscious internal working models of attachment. Based on these factors, self-reported attachment orientations are understood to be 'convenient surface indicators' of individuals' general or relationship-specific internal working models of attachment (Shaver & Mikulincer, 2002).

Relation and distinctions among attachment measures. Correlations between the attachment classifications made by narrative and/or behaviour coding measures and self-report measures are low to moderate (r =0.15-.31), suggesting that these measures are assessing different, yet related, aspects of the attachment (Crowell, Fraley & Shaver, 1999). The manner and degree to which these measures differ has been subject to considerable debate in the literature (Crowell et al., 1999; Mikulincer & Shaver, 2002; Waters, Crowell, Elliott, Cocoran & Treboux, 2002).

Researchers from the developmental perspective suggest that since the classifications made by self-report measures are based on individuals' conscious reports of relationship experiences, these measures must not adequately assess their unconscious attachment processes. Jacobvitz and colleagues (2002) argued that during AAI interviews, anxious individuals have difficulty understanding the impact their early childhood experiences had on the current relationship functioning. Accordingly, these individuals may not be fully aware of their past and current relationship difficulties to classify their behaviour on a self-report measure. Similarly, Jacobvitz et al., (2002) argued that dismissing individuals have a tendency to downplay their negative experiences during the AAI interviews, making it unlikely that they would report difficulties on self-report measures.

In face of these similar criticisms, researchers from the social-cognitive perspective argue that self-report measures of attachment *do* result in similar categories of secure and insecure attachment as the narrative and behavioural measures (Mikulincer & Shaver, 2002); and that classifications on these measures can distinguish between individuals' unconscious attachment processes in a manner consistent with theory[1] (Bartholomew & Moretti, 2002; Feeney, 2002; Mikulincer & Shaver 2007).

Another commonly used distinction between the attachment representations as assessed by the AAI and the attachment orientations as assessed by the self-reported attachment orientations is the 'trait vs. state' distinction. Some researchers from the developmental perspective tend to argue that attachment classifications derived from the AAI are best understood as generalized and trait-like models of attachment (Jacobvitz et al., 2002; Main, Cassidy & Kaplan, 1985; Waters, 1981).

Davila & Cobb (2003) argue that self-report measures may be limited in their degree to gather information from various aspects of an individual functioning, leading to a contextual or state-like assessment of attachment, where clinicians trained in attachment interviews may be more likely to gain information about an individual's functioning in various aspects of their life, which may reflect a more trait-like assessment of attachment.

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[1] Significant correlations have been found between self-reported attachment anxiety and avoidance and Rorschach test codes of hyperactivating and deactivating affect regulation strategies respectively (Berant, Mikulincer, Shaver & Segal, 2005). Further, Mikulincer, Gillath, Shaver (2002) demonstrated in a series of experiments that threat related cues delivered through lexicon decision making and Stroop tasks increased individuals' reactions times for names of attachment figures versus the names of close others or unknown individuals. They also found that individuals with attachment anxiety responded to threat related cues (i.e., the word separation) with faster reaction times for names of attachment figures, versus names of close others or unknowns. However, individuals' with attachment avoidance responded with slower reactions times for attachment figures versus names of close other or unknowns.

This explanation suggests that attachment can function as both a trait and state quality depending on how it is measured.

On the other hand, researchers from the social-cognitive perspective, argue that self-reported attachment can function as both a state- and trait-like construct (Fraley & Brumbaugh, 2004). A recent longitudinal study conducted by Fraley, Vicary, Brumbaugh and Roisman (2011) examined the pattern of change in self-report attachment over a period of 30 days and a period of 1 year. Results of this study illustrated that individuals' pattern of attachment change (within both time frames) reflected the maintenance of a core attachment strategy over time, which supports the trait hypothesis.

Assessing Adult Attachment: Implications for Research

While it is beyond the scope of this review to reconcile these conceptualization and measurement issues, understanding the different perspectives by which to conceptualize and measure adult attachment has important implications for interpreting attachment and interpersonal outcome research, as well as for research that examines shifts in attachment as a result of clinical interventions. Further, given that research has demonstrated low to moderate levels of associations between measures from these different traditions, the present study acknowledges the importance of including measures from both fields of research.

For the purpose of the current literature review, and then our larger study outcomes, we will be assuming that studies using the AAI to assess attachment are referring to unconsciously expressed and trait-like generalized models of attachment. Studies assessing attachment using the SBSS are referring to individuals' relationship-specific attachment behaviour, which are reflective of their relationship-specific unconscious working models of attachment.

On the other hand, studies assessing general or romantic attachment using self-report measures are referring to individuals' conscious expressions of how they currently interact with close others, or romantic partners, in their life. Lastly, studies assessing relationship-specific romantic attachment using self-report measures (as in our study) are referring to individuals' conscious expressions of how they interact with their current romantic partner.

Adult Attachment: Additional Key Issues

Hierarchical nature of attachment. As the preceding review suggests, research has demonstrated that individuals can have both (i) a general working model of attachment that guides how they respond to a variety of different relationships, and (ii) a relationship-specific working models of attachment that influence how people interact in particular relationships.

Ross and Spinner (2001) asked individuals to examine their different attachment relationships. Participants were asked to make a list of close family and friends, and then asked to choose which attachment description (secure, preoccupied, dismissing, fearful) was characteristic of their interactions with each person on their list. They found that participants' self-reported attachment orientation to their mothers, for example, had little relation to the self-reported attachment orientation that they reported with their romantic partners.

Overall, Fletcher and Friesen (2003) examined the nature of how multiple self-reported attachment orientations are cognitively organized. They used confirmatory factor analysis to examine 3 different hierarchical models of attachment representations. After examining the responses of 200 individuals' self-reported general and relationship-specific attachment orientations, these authors were able to demonstrate that individuals' attachment orientations tended to fit best in a model where specific relationships (i.e., mother, best friend, spouse) are organized by domain specific attachment categories (parental, friends, and

romantic), which are organized under a global attachment category (generalized self-reported attachment).

Research has also demonstrated that relationship-specific models of self-reported attachment can inform general models of self-reported attachment. Pierce & Lydon (2001) had individuals complete global and relationship-specific self-report measures of attachment, at two different times points, 3 months apart. Results indicated that individuals' relationship-specific models significantly predicted 6-7% of the variance in their global models of attachment over time.

These studies highlight the importance of distinguishing between general vs. relationship-specific models of attachment when interpreting and conducting attachment based research. Results of these studies also support previous hypotheses (Collins & Read, 1994) that individuals' different attachment relationships were hierarchically organized, yet mutually informative.

Stability and change. Bowlby (1973) hypothesized that although internal working models of attachment would be relatively stable over an individual's lifetime, he (1988) also argued that internal working models of attachment would, by definition, need to be revised in light of new caregiving experiences in order to continuously guide and organize individuals' behaviour in close relationships (Bowby, 1988). As touched on earlier, research into the stability of attachment in adulthood has been used to support both these claims (Fraley & Brumbaugh, 2004).

In their 4-year longitudinal study, Kirkpatrick and Hazan (1994) found that 30% of their sample changed their self-reported general attachment orientation over time. Statistically significant changes in attachment orientation were from anxious to avoidant attachment. Changes in attachment were related to shifts in relationship status and the

initiation of new relationships. Similarly, Scharfe & Cole (2006) found undergraduate students transitioning out of university who remained in the same romantic relationship over a 6 months period reported more stability in attachment, than individuals who stayed single or started a new romantic partnership.

Other studies have examined changes in adult attachment in the context of life events such as marriage or parenthood (Crowell, Treboux, & Waters, 2002; Simpson, Rholes, Campbell & Wilson, 2003). Results from these studies demonstrated that changes towards attachment security were related to positive changes in individual's perception of their partner's availability and support in times of distress, as well as to changes in their own ability to seek support in times of need. These results were similar whether attachment was assessed using a general or relationship-specific narrative based attachment measure (Crowell, et al., 2002b) or a self-report measure of general attachment (Simpson et al., 2003).

In addition to research that suggests that life events and perception of life events led to shifts in attachment orientations, Davila & Cobb (2003) found that individuals with general anxious attachment exhibited more fluctuations in their attachment orientations over time than those individuals with more secure attachment. This result remained consistent whether attachment anxiety was measured by self-report measure or family/peer attachment interview (Davila & Cobb, 2003).

A follow-up meta-analysis of some these preceding studies, and other longitudinal studies examining the stability of adult attachment over time (measured by a mix of self-report and narrative based measures) have demonstrated a stability score of 0.54 (Fraley & Brumbaugh, 2004). These results suggest that although there is a degree of stability in self-reported and interview-based attachment, there also exist the possibility for change. Further,

research has demonstrated that when attachment changes, it does so in a theoretically consistent manner.

Adult Attachment: Individual and Relational Functioning

The conceptualization and measures of adult attachment generated a great deal of research on how individual differences in attachment states of mind or in attachment orientations influences affect regulation skills, emotional self-disclosure, dyadic empathy and support processes within romantic relationships. The next section is a summary of some of the research findings in these areas.[2]

Affect regulation. Shaver & Mikulincer (2002, 2007) reviewed research on how individuals with different attachment orientations regulate their affective experiences. Based on this review, self-reported securely attached individuals, compared to insecurely attached individuals can: access childhood memories of feeling sad, anxious or angry without being distracted by unrelated memories of negative childhood emotional experiences; openly express their emotions to others; and, appraise threatening situations as manageable without becoming overwhelmed (Mikulincer & Florian, 1995; Mikulincer & Orbach, 1995; Wei, Heppner & Mallinckrodt, 2003). Anxious-ambivalently attached individuals: tend to ruminate on negative thoughts; have difficulty identifying and differentiating negative affect; rely on emotion-focused problem solving strategies rather than problem focused; and label neutral relational cues as negative (Mikulincer & Florian, 1995; Mallinckrodt & Wei, 2005; Mikulincer, 1998). Avoidantly attached individuals: have difficulty accessing negative childhood memories; distance themselves emotionally and physically from distressful

[2] Unless stated otherwise, attachment here refers to individuals' generalized attachment, rather than domain or relationship-specific attachment.

situations; and become overly self-reliant when dealing with stressful situations (Lopez, Mauricio, Gormley, Simko & Berger, 2001; Mikulincer & Florian, 1995; Mikulincer & Orbach, 1995).

Attachment based-affect regulation strategies have also been found to influence interactions in interpersonal relationships. Mikulincer (1998) examined romantic partners' affective and cognitive responses to negative relational events and found significant differences in these reactions based on these individuals' self–reported attachment orientations. Securely attached individuals were more likely than insecurely attached individuals to offer optimistic and fair explanations when confronted with a partner's negative behaviour. Anxiously attached individuals, on the other hand, were overwhelmed with feelings of anger when confronted with a partner's negative behaviour. Finally, avoidantly attached individuals reported low levels of anger towards their partner; however they reported high levels of hostility and display high levels of physiological arousal (measured by ECG heart rate).

Feeney (1999) found similar results with a sample of married couples. In this study, individuals' self-reported attachment orientations were compared to their tendency to control their emotions. Emotional control in this study was defined simply as an individual's control over the expression of both positive and negative feelings when interacting with their partner. She found that those partners with higher levels of attachment avoidance and attachment anxiety also had higher levels of emotional control. Results also indicated that both individuals' own control of positive and negative emotions, and partners' control of negative emotions, were significant predictors of relationship dissatisfaction.

Dyadic empathy. Individual differences in attachment have also been shown to impact the degree to which individuals can provide accurate empathy to their partner in times of distress.

Simpson and colleagues (2011) examined the link between self-reported attachment insecurity and the display of accurate empathy in a sample of married couples. They define accurate empathy as the ability correctly to identify and understand a partner's feelings and thoughts. They found that the degree of accurate empathy displayed varied based on individuals' attachment orientations and the type of topics being discussed during videotaped interactions. Individuals high in attachment avoidance were coded as demonstrating low empathic accuracy in discussions that represented both a high and low threat to their relationship bond. However, individuals' high attachment anxiety are more empathically accurate (i.e., more emotionally attuned to their partner) during discussions that represented a high threat, as opposed to a low threat, to their relationship bond. Simpson et al., (2011) suggested that individuals high in attachment anxiety had higher levels of accurate empathy in high-relationship threat situations because of their tendency to ruminate on negative affect (in this case, fear of abandonment). The fact that individuals high in attachment avoidance displayed a lack of accurate empathy in both high and low relationship threat discussions highlights their tendency to minimize any amount of negative affect that occurs within interpersonal interactions.

Péloquin, Lafontaine & Brassard (2011) also investigated the link between self-reported romantic attachment orientations and self-reported dyadic empathy in a sample of heterosexual couples. Results indicated that individuals high in attachment anxiety and attachment avoidance, compared to individuals with attachment security, reported significantly lower levels of perspective taking during conflicts with their partner. Further,

individuals high in attachment avoidance and women high in attachment anxiety had significantly lower levels of empathic concern. These results suggest that romantic attachment insecurity is related to decreased level of emotional attunement to partners' distress. Results of this study also found that women's own lower levels of dyadic empathy mediated the relationship between their romantic attachment insecurity and their use of psychological aggression toward their partner. Péloquin and colleagues (2011) suggested that women's misunderstanding of their partners' emotional distress leads to their own frustration, a precursor to psychological partner violence.

Support and conflict resolution. As with affect regulation, dyadic emotional-control, and the expression of dyadic empathy, a number of studies have demonstrated that individual differences in attachment are related to partners' emotional and behavioural responsiveness in times of distress or conflict.

Collins & Ford (2010) investigated how individual differences in self-reported attachment impacted individuals' ability to respond with sensitivity and responsiveness to partners' changing needs during a laboratory caregiving procedure. During this procedure, caregivers were led to believe by study confederates that their partner was either experiencing high or low stress about an upcoming task. Individuals with secure attachment displayed sensitivity to their partners' distress and provided support that comforted their partner. Individuals with insecure attachment tended to provide support that was misattuned to their partners' needs, i.e., lacking in sensitivity and responsiveness. Specifically, they provided partners with high levels of support regardless of their partners expressed or displayed distress. Avoidant partners, specifically, tended to provide support that was low in empathy, compassion and involvement.

Feeney & Collins (2001) found similar individual differences in caregiving in their sample couples. However, these results also demonstrated that avoidantly-attached individuals' lack of knowledge of supportive behaviours, their lack of empathy, low feelings of trust and feelings of interdependence towards their partner, significantly mediated the relation between attachment and caregiving. Similarly, anxiously-attached individuals' high sense of interdependence and lack of relationship trust mediated the relation between attachment orientations and their compulsive caregiving behaviour.

Bouthilier, Julien, Dubé, Bélanger, and Hamelin (2002) found similar individual differences in the support behaviours of couples engaged in a conflict resolution task. Partners classified as securely attached, using the AAI, were more likely than partners classified as dismissing or anxious to support, validate, and openly express their emotions to their partner when discussing a conflict. It has been argued that securely attached individuals are better able than insecurely attached individuals to; engage in perspective taking, provide empathic responses and engage in reciprocal communication during conflict, because they are less focused on monitoring the availability of their attachment figure (Bouthillier et al., 2002; Mikulincer & Shaver, 2005).

Pietromonaco, Greenwood, and Barrett (2004) also provided insight into attachment related individual differences in couples' conflict resolution strategies. Their research review illustrated that secure attached individuals (based on both self-report and interview-based measurement) respond with more positive and helpful behaviours during conflict resolution than insecurely attached individuals. Further, research also demonstrated that insecurely attached individuals were more likely to be engaged in escalating conflict, and were more likely to use withdrawal as a method of coping. Research also demonstrated that anxious

ambivalent individuals are more likely than securely or avoidantly attached individuals to display high levels of negative affect during conflict resolution (Pietromonaco et al., 2004).

These individual differences in affect regulation, support and conflict behaviours have clear implications for romantic relationship functioning. Specifically, individuals high on attachment security are better able to regulate negative affect independently and when they feel as though they can no longer cope with these feelings alone they disclose these feelings to their partner in a way that draws them closer.

On the other hand, individuals with attachment anxiety tend to ruminate on negative affect and become overwhelmed with their own distress and have difficulty coping with their partners' negative behaviour. These individuals also display a lack of sensitivity and responsiveness to partners' expressed distress in caregiving situations. Further, individuals with avoidant attachment regulate their affect in such a way that causes them to withdraw emotionally from the relationship. In their effort to avoid negative affect these individual tend to display a pattern of rejecting and neglectful caregiving.

Attachment Outcomes Following Psychotherapy

According to vanIJzendoorn & Bakermans-Kranenburg (1996), 40% of individuals in the general population have been classified as insecurely attached on the AAI. As demonstrated by our preceding review, insecurely attached individuals have more difficulty than securely attached individuals navigating interactions in interpersonal relationships (Boutillier et al., 2002; Feeney, 1999; Simpson et al., 2002). However, insecurely attached individuals are also more likely than securely attached individuals to experience depression, alcohol and drug abuse, and negative physical health outcomes such as hypertension (Cooper, Albino, Orcutt, & Williams, 2004; Diamond & Hicks, 2004; Simpson & Rholes, 2004).

Attachment clinicians and researchers hold that individuals' models of attachment can shift towards security if they are provided with a corrective emotional experience in therapy (Bowlby, 1988; Pietromonaco & Feldman Barrett, 2000). A corrective emotional experience occurs when an individual's attachment needs are responded to in a manner completely different than they had been responded to in the past, i.e., with attuned sensitivity and responsiveness. Given this possibility, as well as the negative impact insecure attachment can have on relational and individual functioning, it is surprising that only a handful of studies have directly targeted or even examined changes in individuals' attachment style over the course of therapy.

Travis and colleagues (2001) investigated how Time Limited Dynamic Psychotherapy (TLDP) impacted changes in individuals' attachment orientations over the course of individual therapy. TLDP facilitates changes in individuals' problematic patterns of interpersonal interactions to improve their symptoms of psychopathology (Travis et al., 2001). Attachment was classified through codes of individuals' attachment-based narratives on the Bartholomew Attachment Rating Scale. At the beginning of therapy, all 29 individuals were classified as insecurely attached. After 20 sessions of TLDP, Travis and colleagues reported that 24% (7/29) of these patients were classified as securely attached.

Fonagy and colleagues (1995) reported on outcomes of 35 non-psychotic inpatients with histories of childhood abuse who received psychoanalytically-based therapy for one year. Even though all of these individuals were classified as insecurely attached on the AAI before therapy, 40% (n=14) of these individuals were classified as securely attached at discharge.

Diamond, Stovall-McClough, Clarkin, and Levy (2003) conducted an outcome study of Transference-Focused Psychotherapy (TFP) with ten women diagnosed with borderline

personality disorder. All patients were classified as insecurely attached on the AAI at the beginning of therapy. After one year of therapy, three patients moved from insecure attachment to secure attachment, four patients did not change, three patients moved from insecure attachment to unclassifiable attachment (Diamond et al., 2003).

Tasca, Balfour, Ritchie, and Bissada (2007) examined changes in women's self-reported attachment anxiety and attachment avoidance after completing 16 sessions of group psychodynamic interpersonal psychotherapy (GPIP) or group cognitive behavioural therapy (GCBT) for Binge Eating Disorder. Results indicated that attachment anxiety and attachment avoidance significantly decreased in both treatment groups from pre-to post-therapy.

To understand the meaning of these attachment changes, it is important to consider the manner in which these authors assessed individual differences in attachment. Specifically, based on their use of the AAI or a similar narrative-based measure, it is suggested that the interventions used in Fonagy et al., (1995), Diamond et al., (2003) and Travis et al., (2001) targeted individuals' unconscious and trait-like states of mind with respect to childhood attachment. Tasca et al., (2007) utilized self-report measures of generalized attachment, which suggest that these interventions target individuals' conscious attachment orientations.

It is also important to note that these studies thought of the therapists, or other group members, as the attachment figure(s) with whom the corrective emotional experiences occurred (Diamond et al., 2003; Fonagy et al., 1995; Tasca et al., 2007). Thus, it would be a significant contribution to the literature to investigate whether an intervention could target relationship-specific attachment insecurity through facilitating corrective emotional experiences within a pre-established romantic relationship, as is the goal in Emotionally Focused Couple Therapy.

Emotionally Focused Couple Therapy

Emotionally Focused Couple Therapy (EFT; Johnson, 2004) views relationship distress as resulting from negative interaction patterns that develop from unmet attachment needs (Dessaulles, Johnson & Denton, 2003). Drawing from the attachment theory literature, EFT holds that these rigid emotional reaction cycles are due to partners' difficuly recognizing and expressing their attachment needs for security and care (Johnson, 2004; Johnson & Whiffen, 1999). Specifically, when individuals feel as though their partner has been consistently unable to respond to their cries for help in times of need, the security of their attachment bond is weakened (Johnson, 1996; 2004). When this bond is weakened, couples start to engage in negative interaction cycles that are maintained by these feelings of rejection. EFT also holds that these rigid interaction cycles that are causally circular, such that a partner's responses are reinforced in daily interactions with their partner (Johnson & Best, 2002). In having individuals express their unmet attachment needs in therapy, while encouraging partners to respond to one another with support, EFT fosters the development of a new attachment bond within couples.

Studies examining the effectiveness of EFT for couples have led to impressive results. In their review of EFT outcomes, Johnson, Hunsley, Greenberg & Schindler (1999) reported that 86% of couples have reported improvements in relationship satisfaction at therapy termination. EFT follow-up studies have also demonstrated a high level of stability in relationship satisfaction scores over 2 and 3 years periods (Cloutier, Manion, Gordon – Walker & Johnson, 2002; Halchuck, Makinen & Johnson, 2010). EFT has also demonstrated positive outcomes with couples whose partners suffer from post-traumatic stress disorder, depression, and chronic illness (Dessaulles et al., 2003; Johnson & Williams Keeler, 1998, Knowal, Johnson, & Lee, 2003).

EFT and the process of change. According to marital researchers (Christensen & Heavey 1990; Gottman, 1994; Johnson, 2004), most distressed relationships can be characterized by a 'blame-withdrawal' interaction cycle. In this cycle, one individual tends to pursue his/her partner in a critical or attacking manner. In reaction to this behaviour, the spouse responds by defending him/herself and by avoiding interactions with his/her partner. However, this withdrawing behaviour only encourages the pursing partner to heighten the attention-seeking behaviour of criticizing and nagging. Research has demonstrated that this blame/withdrawal cycle is associated with marital discord and dissolution. In their sample of 49 couples, Heavey, Christensen and Malamuth (1995) found the blame/withdrawal pattern significant predicted a decrease in marital satisfaction over a 2 year period. In a sample of the same size, Caughlin (2002) also reported negative associations between the blame/withdraw cycle and partners' relationship satisfaction. In a 14-year longitudinal study with 79 couples, Gottman and Levenson (2000) found that this blame/withdraw pattern significantly predicted divorce.

In analyzing these behaviours from an attachment theory perspective, EFT views blaming, criticizing, and/or nagging behaviour as hyperactivated pleas for the unmet attachment needs of attention and responsiveness. From this same perspective, withdrawal or avoidant behaviour is the deactivation of feelings of helplessness an individual feels when they are unable to please their partner (Johnson & Whiffen, 1999). In an effort to have couples express these underlying attachment emotions and needs, EFT therapists guide couples through three major events in therapy entitled; cycle de-escalation, withdrawer reengagement, and blamer-softening.

In cycle de-escalation, partners start to recognize their positions within their interaction cycle and how these positions are informed by their unmet attachment needs

(Johnson, 2004). In this stage, the EFT therapist highlights partners' attachment- based cognitions and emotions, making them tangible to themselves and their spouse. According to Johnson (2004), having partners express their own insecurities and fears about the relationship and encouraging them to respond supportively to their spouse is how EFT begins to change partners' attachment-based affect and behaviours and eventually partners' relationship-specific models of attachment. In the next change event, withdrawer-reengagement, the withdrawing/ avoiding partner starts to express to his partner his need for acceptance, care, and comforting. In this stage, the withdrawing spouse also becomes more accessible to their partners' cries for attention (Johnson, 2004). Changes in cycle de-escalation and withdrawer re-engagement set the stage for both partners' vulnerability and responsiveness during the blamer-softening change event.

In the last and major change event in EFT, blamer-softening, the critical spouse begins to trust the partner's newly responsive behaviour, which in turn, encourages them to express their own needs for security and care in the relationship. The previously withdrawing partner then responds to these disclosures with attuned emotional support.

It is important to note the similarities between the enactments occurring in successful withdrawer re-engagement and blamer-softening and those interactions that would occur between securely attached partners in times of distress (Collins & Ford, 2011; Davila & Kashy, 2009; Johnson, 2004). Specifically in both circumstances, partners vulnerably express and supportively respond to one another's attachment needs. Thus, the process of change in EFT provides partners with the opportunity to expand their patterns of interactions to incorporate higher levels of emotional expression and responsiveness, which increases the attachment security and relationship satisfaction between partners.

The role of blamer-softening. The blamer-softening change event has been demonstrated in EFT research to be key in couples' successful relationship satisfaction gains. Johnson and Greenberg (1988) examined the therapy sessions of six different couples that completed 8 sessions of EFT. These couples were divided into low (3) and high change (3) groups based on the relationship satisfaction gains they reported from pre-to-post therapy. To determine whether couples achieved a softening event, self-reported 'best' sessions were selected for coding on psychotherapy process measures (these sessions were cross-referenced with therapist's ratings of best sessions). Softening was thought to have occurred if both partners' series of responses during best sessions reflected a high degree of emotional experiencing as well as affiliation and responsiveness. Results indicated that softening status differentiated between couples in the high and low change groups, where successful couples completed a softening and unsuccessful couples did not. These results led the authors to conclude that the completion of blamer-softening event is crucial to successful relationship satisfaction outcomes in EFT (Johnson & Greenberg, 1988).

Greenberg, Ford, Alden and Johnson (1993) found similar results when comparing couples' self-reported most and least successful sessions. Specifically, they found that those sessions which couples reported as most successful in helping them resolve their concerns contained significantly higher levels of emotional experiencing and significantly more affiliative statements, than sessions rated as least successful. Further, those sessions rated as least successful contained significantly more hostile/blaming statements than those sessions rated as successful.

These research studies have demonstrated how partners' shifts towards a new interaction pattern within the blamer-softening event, and that the completion of this change event has been also shown to distinguish between those couples that do and do not display

increased levels of relationship satisfaction at the end of therapy. These findings support the idea that blamer-softening event is key to relationship satisfaction outcomes in EFT.

Attachment and the Process of Change in EFT

EFT incorporates several of the therapeutic tasks that Bowlby (1988) thought were necessary to shift individuals' models of attachment towards security. First, EFT therapists help clients to explore how past relationship experiences can inform their current relationship expectations and relationship behaviour. Second, EFT therapists provide clients with a secure base to explore their unmet attachment needs. Third, clients are provided an opportunity to experientially explore and disclose their attachment needs to their partner and to learn how to respond to one another in a more emotionally supportive manner. Since many attachment researchers (Bowlby, 1988; Cassidy, 2000; Davila & Kashy, 2009; Fraley & Shaver, 2000; Pietromonaco & Feldman Barrett, 2000) hold that attachment models can be re-organized by new affective experiences with significant others, it is thought that these new forms of emotional engagement in EFT could influence revisions to partners' relationship-specific models of attachment.

Rationale and Presentation of this Study

Although the change events in EFT do facilitate the creation of new positive patterns of interaction between partners (Greenberg et al., 1993; Johnson & Greenberg, 1988) a detailed examination of how individuals' relationship-specific attachment-based cognitive and affective schemas change over the course of EFT has never been conducted. In fact attachment theorists (Mikulincer & Shaver, 2007; Pietromonaco et al., 2002) have suggested that there is a lack of research in general on whether and how attachment-based interventions impact individuals' attachment models.

The goal of the current dissertation was to help contribute to this area of research and our findings are presented in two separate articles. In article 1, we present couples' session-by-session changes in relationship satisfaction, relationship-specific attachment anxiety, and attachment avoidance. This was achieved using Hierarchical Linear Modelling (HLM) for nested longitudinal designs (Singer & Willet, 2003). We also conducted a HLM time varying co-variate analysis to determine whether changes in partners' relationship-specific attachment insecurity were significantly related to session-by-session changes in relationship satisfaction (Singer & Willet, 2003). This allowed us to investigate the role of attachment security on relationship satisfaction outcomes over the course of therapy. In order to examine further the impact of EFT on partners' relationship-specific attachment, this article also reports on the pre-post therapy changes found in partners' attachment-based behaviour, as coded on the Secure Base Scoring System (SBSS; Crowell et al., 2002)

In article 2, the session-by-session changes in couples' relationship satisfaction and relationship-specific attachment that were found in article 1 were related to the process of change in EFT. Specifically, we conducted a HLM intercept and slope discontinuity analysis (Singer & Willet, 2003) to examine how session-by-session changes in relationship satisfaction and relationship-specific attachment insecurity were related to couples' completion of the blamer-softening change event.

The results presented in these two articles aim to contribute to EFT and attachment theory research in several ways. First, by examining session-by-session changes in self-reported attachment orientations, as well as, pre- and post-therapy changes in attachment behaviour, this study offers a systematic examination of the attachment-based assumptions of EFT. These findings will contribute to attachment theory by demonstrating whether a therapeutic intervention can influence change in both conscious and unconscious

relationship-specific models of attachment. Second, examining the impact of attachment security on relationship satisfaction outcomes over the course of therapy will contribute to the growing body of literature examining the usefulness of attachment theory in treating individual and relational difficulties. Third, displaying a relation between a key change event in therapy and couples' self-reported changes in relationship satisfaction and relationship-specific attachment will demonstrate exactly how the process of change in EFT is contributing to significant outcomes. These results will contribute to attachment-based therapies by highlighting the type of intervention needed to impact relationship-specific attachment.

Since this was the first time partners' completed questionnaires on a session-by-session basis over the course of EFT, I was also interested in examining how trust and dyadic emotional control, variables previously examined in EFT research through pre- to post-designs, would change over the course of therapy, and how these changes related to changes in couples' relationship satisfaction. To focus the content of the articles presented in this dissertation, I chose to only present the trust and emotional control results in Appendix A of the full dissertation.

The general discussion of this dissertation provides a summary of all the study findings. The clinical and research implications of these findings for EFT, couple therapy, attachment-based therapies, and attachment theory are also discussed.

Data Cleaning and Missing Data Analysis

Participants' scores on the outcome measures were corrected for data entry errors and examined for univariate and multivariate outliers. A univariate outlier was found on the Dyadic Adjustment Scale (DAS; Spanier, 1976) for session 10 and on the Experiences in Close Relationship Scale- Specific and Current Relationship Modification (ECR-SCRM)

avoidance subscale for session 20. Three cases were found to be multivariate outliers on the DAS and on the ECR-SCRM. We corrected outliers by replacing the outlying score with the next highest or lowest score (Tabachnick & Fidell, 2001). No univariate or multivariate outliers were found on the Relationship Trust Scale (RTS; Holmes, Boon & Adams, 1990), Courtauld Emotional Control Scale-Revised (CECS-R: Feeney, 1995), the SBSS (Crowell et al., 2002a), or the Post-Session Resolution Questionnaire (PSRQ; Orlinsky & Howard,1975).

A few of our variables (i.e., pre-post RTS, pre-post ECR-SCRM anxiety, post- ECR-SCRM avoidance) were slightly skewed in the expected directions; however, none of these distributions were extreme. Finally an examination of kurtosis and homoscedasticity indicated that all scores on the above measures were normally distributed.

To deal with missing data, subscale and total scores were only calculated for participants who completed at least 80% of the items on the respective questionnaires. Once questionnaire data was calculated, descriptive statistics were analyzed. Results indicated that there were no missing data for the pre-therapy assessment, and 96% of our sample (62/64 individuals) completed the post-therapy questionnaires. Further, 72% of the sample provided complete data at each session. Although HLM accounts for missing data better than traditional methods of repeated measure analysis, missing data needs to be non-informative, which is also known as missing at random (MAR). A common approach to determine if repeated measures data is MAR is the pattern-mixed procedure (Hedeker & Gibbons, 1997). According to this procedure, data is MAR if the pattern associated with the missing data is independent of outcomes. The most common pattern of missing data in therapeutic outcomes studies is treatment completers vs. treatment dropouts (Gallop & Tasca, 2009). Since we only had one official therapy dropout, we included couples that were classified by their therapist as ‘therapy non-engagers’ (n=4) in our dropout variable. These couples were those who

completed all the study components, but were deemed by their therapists either ending therapy before it was recommended or being uncommitted to the process of therapy.

A series of conditional linear models were run to determine if therapy dropouts and non-responders had different relationship satisfaction outcomes than the rest of the sample (n=27). Specifically, dropout/unengaged status (0 =dropout/non-engaged, 1= completer) was added as a predictor at Level 3 of the unconditional linear models for relationship satisfaction. Dropout or disengaged status was not significantly associated with session-by-session relationship satisfaction growth (γ_{101} = -0.01, t (29) = -1.53, p = 0.13). This conditional linear model was not a better fit to the data than the unconditional linear model with time alone as a predictor. Similarly, dropout/unengaged status was not related to changes in dyadic emotional control (γ_{101} = -0.29, t (29) = -1.25, p = 0.22), trust (γ_{101} = -0.39, t (29) = -1.93, p = 0.06), relationship-specific attachment anxiety (γ_{101} = -0.01, t (29) = -0.86, p = 0.40), or relationship-specific attachment avoidance (γ_{101} = -0.01, t (29) = 0.32 p = 0.75), secure base use (γ_{101} = -1.00, t (29) = -1.63, p = 0.11) or secure base support (γ_{101} = -0.39, t (29) = -1.38, p = 0.20). None of these conditional linear models were a better fit to the data ($p<0.05$). Based on these results, data was determined to be missing at random, all data was used in the analysis, and no data substitution methods were used.

Running Head: Changes in Romantic Attachment in EFT

Article 1

Changes in Romantic Attachment in Emotionally Focused Couple Therapy

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Abstract

Emotionally Focused Couple Therapy (EFT; Johnson, 2004) understands and treats relationship distress using an attachment theory perspective. Although EFT has consistently demonstrated excellent relationship satisfaction outcomes (Johnson, Hunsley, Greenberg & Schindler, 1999) less is known about its influence on couples' attachment functioning. The process of change within EFT suggests that couples should display increases in their relationship-specific models of attachment security over the course of therapy. The goal of this study was to examine these attachment-based assumptions of EFT with 32 heterosexual couples that completed an average of 21 sessions of therapy. Session-by-session changes in partners' self-reported relationship satisfaction and relationship-specific attachment anxiety and avoidance were examined, along with changes in couples' pre-post-therapy relationship-specific attachment behaviours. Results indicated that couples' relationship-specific attachment anxiety and avoidance significantly decreased over the course of therapy. Additionally, couples' post-therapy secure base behaviour scores significantly increased towards security from pre-therapy levels. Results also demonstrated that changes in relationship-specific attachment anxiety were significantly associated with changes in relationship satisfaction. These findings provide support for the claim that EFT can facilitate increases in partners' relationship-specific attachment security and that these increases are a key contributor to the relationship satisfaction gains seen within this approach.

Changes in Romantic Attachment in Emotionally Focused Couple Therapy

Emotionally Focused Couple Therapy (EFT; Johnson, 2004) is an empirically validated approach to treat relationship distress. Within this approach, it is understood that relationship distress results from partners' rigid engagement in negative interaction cycles (Johnson, 2004). These cycles are thought to result from partners' unmet attachment needs for both security and care within their relationship (Johnson & Whiffen, 1999). During therapy, as partners experientially identify, experience, and express their unmet needs for security and care, they learn new patterns of engagement with their partner. The theory of EFT suggests that these new patterns of emotional engagement work to restructure partners' relationship-specific models of attachment.

While EFT has led to excellent relationship satisfaction outcomes at post-therapy and follow-up (Halchuck, Makinen & Johnson, 2010; Johnson et al., 1999), much less is known about the effects of EFT on partners' relationship-specific attachment functioning. Accordingly, the goals of the current study are to investigate the impact of EFT on partners' relationship-specific models of attachment. Results will allow for a test of the attachment theoretical assumptions of EFT and also help us to understand the usefulness of attachment theory to treat relationship distress (Davila, 2003). At the same time, these results will add to the growing body of literature on the clinical application of attachment theory in addressing a wide range of psychopathology (Shorey & Snyder, 2006).

Emotionally Focused Couple Therapy

EFT (Johnson, 1996/2004) uses experiential, systemic and attachment-based approaches to facilitate improvements in couples' relationship functioning. Johnson and colleagues (1999) reviewed EFT research that demonstrated that 86% of couples reported

improvements in relationship satisfaction at therapy termination. Research has also illustrated that these relationship satisfaction gains are maintained at two and three years after therapy (Cloutier, Manion, Gordon-Walker & Johnson, 2002; Halchuk, Makinen, & Johnson, 2010). Further, couples who have completed EFT have reported higher levels of intimacy at post-therapy than couples who have completed a behavioural problem solving approach or who were assigned to a waitlist control group (Denton, Burleson, Clark, Rodrigues, & Hobbs, 2000; Johnson & Greenberg, 1985). Further, Makinen & Johnson (2006) demonstrated that EFT results in pre- to post- therapy increases in couples' trust and forgiveness scores.

EFT case conceptualizations and interventions are informed by attachment theory (Davila, 2003; Johnson & Whiffen, 1999). Specifically, EFT encourages partners to experientially identify and express their unmet attachment needs to one another in an effort to restructure their negative patterns of interaction. The following section provides a brief review of the key concepts of attachment theory that are used by EFT therapists to understand and treat relationship distress.

Attachment Theory

Attachment theory (Bowlby, 1969/1982) states that individuals are born with an innate desire to seek proximity to others, and to be soothed by them, in times of distress. Variations in early caregiving environments lead individuals to develop different models about the worthiness of self and about the availability of others to soothe their distress in times of need. The differences between these models are reflected in an individual's level of attachment *security*, attachment *anxiety*, and attachment *avoidance*.

According to attachment theory (Bowlby, 1988) individuals with attachment *security* were provided with sensitive and responsive emotional support by their primary caregivers.

This attuned support allows these individuals to develop an understanding of, and an ability to cope with, negative affect (Fonagy, 2001). These individuals also learned that others are a viable resource for comfort, reassurance, and guidance in times of need (Shaver & Mikulincer, 2002). Individuals with attachment security display more helpful and responsive caregiving with their partner during laboratory based caregiving tasks (Collins & Ford, 2010) and conflict resolution tasks (Bouthilier, Julien, Dubé, Bélanger & Hamelin, 2002) than do individuals with high levels of attachment anxiety or avoidance.

Individuals with high levels of attachment *anxiety* were provided with inaccurate emotional mirroring and inconsistent support from their primary caregivers (Fonagy, 2001). As a result, these individuals learned to believe that they themselves must be unworthy of consistent care and that others are an unreliable source of comfort in times of need. Further, they learned that in order to have their attachment needs met they must *hyperactivate* their cries of distress (Shaver & Mikulincer, 2002). Hyperactivating affect regulation strategies include clinging behaviour, overdependence, and 'most of all, a strongly held personal belief that negative affect cannot be managed independently' (Shaver & Mikulincer, 2002). Individuals high in anxious attachment tend to display an overdependence on loved ones, a misattuned approach to caregiving, and a focus on negative affect during conflict resolution tasks (Collins & Feeney, 2001; Mallinckrodt & Wei, 2005; Shaver & Mikulincer, 2002).

Individuals high in attachment *avoidance* faced rejection and hostility when they disclosed their attachment needs to their primary caregivers. Accordingly, these learned that they must engage in deactivation strategies to cope with their negative affect (Mikulincer & Shaver, 2002). These deactivating strategies include the avoidance of emotional involvement, the numbing of affect, and the denial of the need for intimacy. Individuals with attachment avoidance tend to engage in excessive self-reliance, to reject loved ones' offers of

support, and to display a pattern of neglectful caregiving during laboratory-based caregiving tasks (Feeney, 1999; Mikulincer & Shaver, 2007; Simpson, Rholes, Orina, & Grich, 2002).

Not surprisingly, couples comprised of two insecurely attached partners—most commonly anxious-avoidant or anxious-anxious pairings (Mikulincer & Shaver, 2007)—report the highest amount of marital conflict, the lowest amount of marital support and display patterns of negative interaction that reinforce their insecure attachment orientations (Davila & Kashy, 2009; Gallo & Smith, 2001).

Based on this review, it can be seen that early attachment security is a protective factor for future individual and romantic relationship functioning (Mikulincer & Shaver, 2007). This suggests that models of attachment formed in childhood display some stability into and throughout adulthood. Although research has supported this claim (Fraley, 2002; Fraley, Vicary, Brumbaugh & Roisman, 2011), individuals have also demonstrated shifts in attachment orientations over time, especially in light of new caregiving experiences. For example, in adulthood, changes towards self-reported attachment security have been linked to positive changes in individuals' perception of their partner's availability and support in times of distress and changes in an individual's own ability to seek support in times of need (Crowell, Treboux, & Waters, 2002; Davila & Kashy, 2009; Simpson, Rholes, Campbell & Wilson, 2003). Based on these research findings, EFT, and other similar attachment-based researchers and clinicians hold that models of attachment could also change from insecurity to security, over the course of therapy.

Attachment Orientations as Therapeutic Outcomes

Attachment theorists (Bowlby, 1988; Johnson & Whiffen, 1999; Mikulincer & Shaver, 2007; Shorey & Snyder, 2006) argue that therapists can facilitate change in clients' models of attachment by providing them with a *corrective emotional experience.* This occurs

when therapists provide clients with a safe base from which to explore their attachment fears, and when therapists respond to these needs in a more attuned manner than the client had experienced from others in the past.

However, only a few studies have systematically examined and reported results on attachment change as a therapy outcome. Specifically, research has demonstrated that 20%-40% of individual therapy clients moved from attachment insecurity to security on the Adult Attachment Interview (or a similar narrative-based measure of attachment), after participating in either time-limited (20 sessions) or longer-term (1 year) psychodynamic therapy (Diamond, Stovall-McCloush, Clarkin & Levy, 2003; Fonagy et al., 1995; Travis, Binder, Bliwise & Horne-Moyer, 2001). Tasca, Balfour, Ritchie, and Bissada (2007) found that both cognitive behavioural and interpersonal psychodynamic group therapies led to significant decreases in the self-reported attachment anxiety of women with Binge Eating Disorder.

In order to understand the meaning of the attachment changes reported in these different studies, one must be aware of how different researchers conceptualize adult attachment. Specifically, some adult attachment researchers view attachment as operating mainly as an *unconsciously* expressed construct (Jacobvitz, Curran, & Moller, 2002). These models of attachment are labelled as 'internal working models of attachment' and are assessed using narrative or behavioural coding measures.

For example, the Adult Attachment Interview (AAI; Main, Kaplan & Cassidy, 1985), or measures similar to the AAI, code narratives of individuals' attachment-based interviews to assess individuals' trait-like, and thus, generalized internal working model of attachment. Similarly, the Secure Base Scoring System (SBSS; Crowell, Treboux, Gao, Fyffe, Pan & Waters, 2002) is a behavioural coding measure that codes partners' verbal and non-verbal

attachment based behaviour. This measure has been compared to the AAI in its ability to capture unconscious aspects of individuals' internal working models of attachment (Crowell et al., 2002a; Treboux, Crowell & Waters, 2004); however, the SBSS is assessing relationship-specific models of attachment instead of generalized models of attachment.

Other attachment researchers (Brennan, Clark, & Shaver, 1988; Shaver & Mikulincer, 2002), however, argue that internal working models of attachment can be represented at *both* the *conscious* and *unconscious* levels. They suggest that individuals' self-reported relationship experiences and their use of hyperactivating and deactivating affect regulation strategies within their relationships (Shaver & Mikulincer, 2005) provide enough information to distinguish between individuals' internal working models of attachment. They label these individual differences within internal working models as *attachment orientations*. Self-report measures of attachment can assess attachment orientations that are generalized, domain specific (i.e., romantic attachment), or relationship-specific (i.e., their current partner).

Based on this information, we can now understand that the attachment changes reported in the first set of studies (Diamond et al, 2003; Fonagy et al, 1995; Travis et al, 2001), which employed the AAI or a similar narrative-based measure of attachment, may have represented changes in individuals' generalized, trait-like, unconsciously expressed, internal working models of attachment. On the other hand, Tasca and colleagues (2007), with their use of a self-report measure of general attachment, which likely demonstrated changes in individuals' general yet consciously expressed attachment orientations.

These studies demonstrate that attachment-based psychotherapy researchers should report exactly how they are conceptualizing, and thus measuring, attachment change over the course of their interventions. Since we believe that EFT could target partners' consciously and unconsciously expressed relationship-specific models of attachment, we examined

attachment change using both a self-report measure of attachment and a measure of partners' unconsciously expressed attachment behaviour. To our knowledge, no other study has employed such a detailed approach to measuring attachment change over the course of a therapeutic intervention.

Another contribution of the present study is that it examines how therapists can facilitate a corrective emotional experience *between romantic partners*. This is significant because past studies assumed that the therapist (or maybe even other group members in group therapy) acted as the attachment figure(s) with whom the correctional emotional experiences occurred. To our knowledge, no previous study has examined how attachment functioning changes, as a result of a therapeutic intervention, in romantic relationships.

Process of Change in EFT and Attachment

The process of change in EFT consists of specific change events that are designed to target partners' negative interaction cycles. The most common cycle displayed by distressed couples is the blame/withdraw interaction cycle (Christensen & Heavey, 1990). In this cycle, one partner blames and criticizes the other for failing to meet their emotional needs. To cope with these criticisms, the other partner withdraws from the relationship. These behaviours are mutually reinforcing, and hence cyclical, systematically increasing the couple's relationship distress (Burgess Moser & Johnson, 2008). Accordingly, research has demonstrated that this blame/withdrawal cycle is predictive of marital discord and dissolution (Caughlin, 2002; Gottman & Levenson, 2000).

Analyzing these behaviours from an attachment theory perspective, EFT views blaming behaviour as the hyperactivated pleas, typically used by individuals high in attachment anxiety, to gain emotional connection and acceptance from their partner. Similarly, EFT views withdrawing behaviour as a set of deactivation strategies used by

individuals high in attachment avoidance. These deactivation strategies are used to repress the feelings of rejection and hopelessness associated with their perceived inability to please their partner (Johnson & Whiffen, 1999). Accordingly, EFT therapists aim to facilitate shifts in the attachment-based affect and behaviour underlying couples' negative interaction cycles.

To accomplish this goal, EFT therapists guide partners through three major therapeutic change events: *cycle de-escalation*, *withdrawer-reengagement*, and *blamer-softening*. Through these change events partners start to understand that their behaviour within their negative interaction cycle is results from their unmet attachment needs. Withdrawing partners start to emotionally engage with their partner by distilling and disclosing their fear of rejection, and blaming partners start to engage with their partner from a position of vulnerability by expressing their fear of abandonment. Within the process of therapy partners also learn to respond to one another vulnerabilities with warmth and acceptance. The engagement in these new interaction cycles is thought to facilitate increases in partners' relationship-specific models of attachment.

To test this assumption, EFT researchers have assessed for changes in couples' romantic attachment at pre-post- therapy and at 3-year follow-up (Halchuk et al., 2010; Makinen & Johnson, 2006). Although these studies demonstrated significant pre-to post-therapy increases in couples' relationship satisfaction, trust and forgiveness, along with maintenance of these gains over time, they found no significant differences in partners' self-reported romantic attachment from pre- to post therapy or from pre-post-therapy to follow-up. In response to these findings, Halchuck and colleagues (2010) suggested that perhaps attachment change over the course of EFT would be better captured by more frequent measurement time points.

This suggestion was apt; all previous EFT outcomes studies have investigated change by measuring shifts in functioning over pre-post therapy and follow-up assessments. Although this type of design helps us to understand whether key outcomes change after the completion of EFT, it provides little information on any pattern of change that can be seen in outcomes over the course of therapy. Christensen and colleagues (2004) were among the first to use Hierarchical Linear Modeling (HLM; Singer & Willet, 2003) to investigate couples' pattern of change over the course of therapy. They investigated change in partners' self-reported relationship satisfaction and individual mental health functioning at pre-therapy, 13 weeks, 26 weeks, and at post-therapy within Traditional (TBCT; Jacobson & Margolin, 1979) and Integrative Behavioural Couple Therapy (IBCT; Jacobson & Christensen, 1996). Results indicated that although TBCT couples improved their relationship satisfaction at a quicker rate than IBCT couples at the beginning of therapy, their improvements flatten out and slightly deteriorated compared to the improvements demonstrated by the ICBT couples. Christensen et al., (2004) also demonstrated a significant co-varying effect of couples' self-reported mental health functioning on relationship satisfaction gains. That is, as couples' global self-reports of mental health functioning improved over time, so did their marital satisfaction.

Christensen et al.,'s (2004) study demonstrated the usefulness of HLM in examining couples' pattern of change over time and also in understanding how key outcomes relate to one another over the course of therapy.

Objectives of the Current Study

The primary goal of the current study was to investigate the impact of EFT on couples' attachment functioning. To replicate previous research and to ensure couples in this study benefited from treatment, we first assessed clinically significant improvements in

relationship satisfaction and investigated the pattern of change in couples' relationship satisfaction over the course of therapy.

To test the attachment based assumptions of EFT we examined the pattern of change in couples' relationship-specific attachment anxiety and avoidance over the course therapy, and investigated pre-post therapy differences in couples' attachment based-behaviour. Investigating session-by-session changes in couples' relationship-specific attachment over the course of EFT allowed us to capture changes in attachment that had not been previously captured by previous pre-post designs. We also assessed pre-post-therapy changes in couples' relationship-specific attachment behaviour. Investigating change in both self-reported and behavioural-coded relationship-specific attachment helps to determine whether EFT facilitates increases in partners' consciously- and unconsciously-expressed models of relationship-specific attachment.

An additional goal of this study was to examine whether the pattern of change in individuals' self-reported, relationship-specific attachment was significantly associated with changes in their self-reported relationship satisfaction over the course of therapy. Results from this kind of analysis would support the use of attachment theory to understand and treat relationship distress. To determine whether decreases in attachment anxiety and avoidance were associated with increases in couples' relationship satisfaction, a series of time-varying co-variate analyses were conducted.

To accomplish these goals, the following specific study hypotheses were examined:

Preliminary Main Outcomes

Hypothesis 1a: The majority of couples will demonstrate a clinically significant increase in relationship satisfaction from pre- to post-therapy.

Hypothesis 1b: Couples will report a significantly linear increase in relationship satisfaction over the course of therapy. Additionally, couples will report a significantly linear decline in relationship-specific attachment anxiety and avoidance over the course of therapy.

Hypothesis 2. Couples' post-therapy secure base use and support scores on the SBSS will significantly increase from pre-therapy scores.

Time Varying Co-Variate Analysis

Hypothesis 3. Changes in couples' self-reported levels of attachment anxiety and avoidance will significantly co-vary with changes in self-reported relationship satisfaction over the course of therapy. Decreases in attachment anxiety and avoidance will be related to increases in relationship satisfaction.

Finally, we conducted a post-hoc analysis to determine whether changes in attachment anxiety and avoidance both uniquely contributed to relationship satisfaction growth when both variables were placed in the same time-varying co-variate model.

Method

Participants

The mean age of women and men in our sample was 44.1 (*SD* = 6.7) and 45.3 (*SD* = 8.2) respectively. The majority of our couples were married (93.8%) and 2 couples were common-law. Couples reported a mean length of relationship of 17 years (*SD* = 8.4). A total of 9 (14%) couples reported being previously married. Many couples in our sample reported having at least one child (96%) from their current relationship, and 6 (19%) of the couples reported having 1 to 2 children from a previous relationship. Our sample consisted of predominately Caucasian (93.8%) individuals that reported their first language to be English (77%). The individual mean income of our sample was $75,886.79 (*SD* = 6.0) and the majority of partners reported finishing university or college (93%).

Measures

The Dyadic Adjustment Scale. The Dyadic Adjustment Scale (DAS; Spanier, 1976) is a 32-item measure of romantic relationship adjustment. This measure is summed into a total score and four subscales; however, only the total score was used in the current study. The total scores on this measure can range between 0-151. Higher scores indicate greater dyadic satisfaction. Spanier (1976) reported a total score of 114.8 (*SD* = 17.8) for married individuals, and 70.7 (*SD* = 23.8) for divorced individuals. Spanier (1976) reported a high degree of internal consistency of ∝ = .96 for this measure. Carey, Spector, Lantinga and Krauss (1996) reported that the 2-week stability of this measure was *r* = .87 for the total scale score. For the assessment periods in the current study, the internal consistency ratings for this total score ranged between ∝ = .81-.98.

The Experiences in Close Relationship Scale. The Experiences in Close Relationship Scale original (ECR; 36 items, Brennan, Clark & Shaver, 1998) and its Short Form (ECR-SF; 12 items, Wei, Russell, Mallinckrodt, & Vogel, 2008) examine partners' conscious perceptions of attachment anxiety and attachment avoidance in romantic relationships. Both versions are rated on a 7 point-Likert scale, in which higher scores indicate greater attachment insecurity. Shaver, Schachner, and Mikulincer's (2005) norms for the full version, based on 72 university aged heterosexual couples, yielded a mean couple attachment anxiety score of 3.56 (*SD* = 1.05) and a mean couple attachment avoidance score of 2.04 (*SD* = 0.72). Internal reliabilities for the short and long measures are adequate to high; for attachment anxiety ∝= 0.78 to 0.91 and for attachment avoidance ∝= 0.84-0.94 (Brennan et al., 1998; Wei et al., 2008). Test-retest reliability for the short and long form are good; *r* = 0.80-82 for attachment anxiety and *r* = 0.79-0.82 for attachment avoidance, over a

one to two month period (Picardi, Caroppo, Toni, Bitetti, & DiMaria, 2005; Wei et al., 2008).

With permission (P. Shaver, personal communication, December 6, 2006, and M. Wei, personal communication, April 5, 2008) a modified version of these measures was used in the current study (ECR-Specific and Current Relationship Modification; ECR-SCRM, and ECR-SCRM-Short Form). These versions re-worded relevant pronouns to reflect feelings about their current romantic partner, instead of close relationships in general. For the current study, reliability co-efficients for the subscales of the ECR-SCRM were high (i.e., pre- and post-therapy attachment anxiety and attachment avoidance, 18 items, ranged between $\propto$ = 0.86- 0.97). Finally, the reliability co-efficients for the ECR-SCRM-Short Form were adequate; over 21 session the average reliability for the attachment anxiety subscale (6 items) was $\propto$= 0.76 and for the attachment avoidance subscale (6 items) the average reliability was $\propto$ = 0.79.

The Secure Base Scoring System. The Secure Base Scoring System (SBSS, Crowell et al., 2002) codes verbal and non-verbal aspects of partners' attachment-based behaviour. Ratings on this measure are thought to distinguish between *unconscious* aspects of individuals' relationship-specific internal working models of attachment (Treboux et al., 2004). Scores on the SBSS significantly predicted different relationship outcomes over and above communication and emotional expression ratings (Crowell et al., 2002a). Crowell et al., (2002a) compared SBSS scores to those attachment classifications that are derived from the AAI and found that individuals classified as secure, as opposed to those classified as insecure, on the AAI (Main et al., 1985) scored significantly higher on secure base use and secure base support. Based on a sample of 144 engaged couples, securely attached

individuals had mean secure base use and support scores of 4.5 (SD = 1.6) and 4.5 (SD = 1.7) respectively, and insecurely attached individuals had mean secure base use and support scores of 3.4 (SD = 1.6) and 3.3 (SD = 1.7) respectively.

For the use of this measure, partners' behaviour during a 15-minute videotaped conflict resolution task was coded on a several different 7-point Likert scales. The content of the discussion was first rated on the attachment topic scale, where higher scores are indicative of discussions involving attachment-related needs and desires. Each partners' behaviour was coded on four secure base use and four secure base support subscales, which are totalled into secure base use and secure base support summary scales respectively. A high secure base use summary score indicates that partners express their distress clearly, that they display a clear belief that the other should/will help, and that they display satisfaction with the partner's effort to comfort them. A high secure base support score denotes an ability to identify, to recognize, and to accurately interpret and sensitively respond to the partner's distress (Crowell et al., 2002). The secure base use and support summary scores are the only two scales used in the final analysis.

Four graduate students were trained to code partners' behaviour on the SBSS. The four coders were divided into two coding groups. Coders were blind to the pre-post therapy classification of the video and neither group coded the same couples' pre-post therapy video. Inter-rater reliability was calculated on all of the videos within each of the two coding groups. Disagreements in coding were reached through discussion among coders and the average of the two coders' scores was used in the final data analysis. Intraclass correlations, with two-way mixed and consistency agreement classification, were used to determine inter-rater reliability. Within and between group inter-rater reliability coefficients ranged between

0.65- 0.87, which suggest good to excellent levels of agreement among coders (Bech & Clemmensen, 1983).

Procedure

Eligibility criteria and screening. Participants were recruited from advertisements in local newspapers and community agencies. Couples underwent two screening sessions. In the first screening session, partners provided their age, relationship length, and self-reported mental health history in a 25-minute telephone semi-structured interview. Both members of the relationship had to be at least 25 years old, and eligible couples had to be exclusively involved and living with one another for at least one year. Neither partner could report a current or past diagnosis of, or any symptoms related to, a psychotic disorder (i.e., mania, hallucinations, delusions). Partners could not report any alcohol abuse (i.e., over 14 drinks a week), or any elicit or prescription drug abuse/misuse. Finally, neither partner could report a history of childhood, adulthood or physical or sexual abuse, nor could they report physical or sexual violence in their current relationship.

In the second session, partners provided informed consent according to the research ethics boards of the involved institutions. They completed a series of questionnaires and a conflict resolution task. This session took approximately 2 ½ hours. A flowchart describing the course of screening for interested couples is presented in Figure 1.

Insert Figure 1 about here

A total of 32 couples were eligible to participate in our study. One of these couples did not complete the study after undergoing 3 months of therapy; however, they consented to continued use of their data. This provided us with 32 couples who completed at least 10

sessions of therapy, and 31 couples who completed the entire study including the post-therapy questionnaire assessment. All couples completed the pre-therapy SBSS assessment; however only 27 couples completed the post -therapy SBSS assessment.

The DAS (Spanier, 1976) and the ECR-SCRM (Brennan et al., 1998) were used to help determine couple eligibility. Couples were eligible for this study if their mean score ranged between 80-97 on the DAS. Based on Spanier's (1976) norms for married and divorced individuals, couples' mean pre-therapy DAS scores were in the moderately distressed range (87.7, *SD* = 8.1).

Since we were interested in examining the effect of EFT on attachment orientations, at least one partner had to report a relationship-specific insecure attachment orientation to be eligible for study participation. Partners were considered insecurely attached if their pre-therapy ECR-SRCM scores were over the 95% confidence interval of the ECR norms presented earlier from Shaver, Schachner, and Mikculincer (2005). The majority of couples in the current study (94%, n=30) included partners both of whom reported relationship-specific attachment insecurity at pre-therapy.

Assessment and therapy procedures. The questionnaires completed by eligible couples during the second screening session were used as the pre-therapy assessment. Eligible couples were then randomly assigned to 13 practicing psychologists and/or social workers at a local private practice. All therapists had at least 5 years experience in Emotionally Focused Couple Therapy. Partners completed an assessment package after every therapy session and these questionnaires took approximately 15 minutes to complete. A 1-½ hour post-therapy assessment was conducted where partners completed questionnaires and a conflict resolution task. Couples were provided therapy free of charge and were financially

reimbursed approximately for the time they provided to complete the research assessments ($200.00 per couple).

Statistical Analyses

The Reliable Change Index. We used the Reliable Change Index (RCI; Jacobson & Traux, 1991) to examine clinically significant pre- and post-therapy changes in partners' relationship satisfaction scores (Hypothesis 1a). The RCI accounts for fluctuations in pre- and post-therapy scores that can arise due to measurement error. If the RCI exceeds 1.96, the probability of the mean difference having occurred by chance is less than .05 and, thus, represents a clinically significant change. The current study used the clinical cut off score of 97 to determine if couples recovered with regard to relationship satisfaction. This cut off is recommended by Jacobson, Follette, and Revenstrof (1987) and has been used in previous EFT outcome studies.

Hierarchical Linear Modelling. Hierarchical Linear Modelling (HLM; Singer & Willet, 2003) is a method of examining repeated measures data that is nested within multiple levels. In the present study, the repeated measurements (Level 1) of the dependent variables are nested within individual partners (Level 2), and individual partners are nested within couples (Level 3). Since we were interested in how couples change over the course of therapy, only intercept and slope effects at Level 3 are reported. We first ran intercept-only models and compared them to their respective unconditional linear models, to test for the effect of time. We then ran time-varying co-variate models, to assess if changes in

relationship-specific attachment anxiety and attachment avoidance were associated with relationship satisfaction growth.[3]

To assess the effect size of the growth/time variable in the unconditional models, we compared the variance components from the unconditional linear to those from the intercept-only models through the calculation of pseudo R^2. The equation for pseudo R^2 is (σ2 base - σ2 unconditional) / σ2 base), where σ refers to the error variances at Level 1 of the model (Singer & Willet, 2003). Since it has been suggested that pseudo R^2 can only be reliably used to determine the amount of variance explained by growth parameters (Hox, 2010), we also reported incremental model fit based on HLM deviance statistics. These deviance statistics are based on the -2 log likelihood from maximum likelihood estimation (MLE); they demonstrate superior statistical properties to the pseudo R^2 (Singer & Willet, 2003). Lower deviance statistics represent a better fitting model to the data. To determine whether our conditional linear models represent a better fit to the data than our unconditional linear models, we reported the difference between these nested models' deviance statistics. Statistically significant differences are determined using the chi-square distribution. Degrees

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[3] The *intercept only models* included only the dependent variable. These models provided information on where all our couples started on the dependent variables and on the amount of within and between variance that was available for further prediction at each level of analysis (i.e., repeated measures/time, individual, couple). The intercept only models also provided a base model for comparison to future models with additional predictors, such as time. The *unconditional linear models* provided information on the amount of variance explained in the dependent variable by modelling its repeated measurement across time (in the current case by session number). The unconditional linear model also provided information on the direction and rate of change in the dependent variable of interest. The unconditional linear model provided a model for comparison to future models with additional predictors. The time-varying co-variate models included our dependent variable, our time variable, and our time-varying predictor. This model provided information on the impact that the time-varying co-variate had on our dependent variable, after controlling for the impact of time alone.

of freedom for the resulting chi-square value are the difference in the number of parameters in the nested models. We used full maximum likelihood estimation for all HLM analyses.

To test Hypotheses 1b, we ran a series of intercept only and unconditional linear models with time (session) as a predictor and relationship satisfaction, relationship-specific attachment anxiety and avoidance as the dependent variables (Appendix A: Model A)[4]. To test Hypotheses 2, we ran a series of intercept only and unconditional linear models with time (pre post) as a predictor and couples' post mean secure base use and support scores as the dependent variable (Appendix A: Model A). To test Hypotheses 3, we ran two separate time varying co-variate models with changes in attachment anxiety and avoidance as time-varying predictors with relationship satisfaction as the dependent variable (Appendix A: Model B). To investigate whether changes in both relationship-specific attachment anxiety and avoidance uniquely contribute to changes in relationship satisfaction, we ran an additional time varying co-variate model as a post-hoc analysis. For the unconditional linear models, we entered individuals' and couples' pre-scores on the dependent variables at Level 2 and 3 respectively to control for their impact on estimates of change. Further, we centred our time variable, so time 0 referred to couples' pre-therapy assessment scores.

[4] Since there are limited degrees of freedom available at 2nd level of analysis when conducting analysis with three level models for couple data, we followed Atkins' (2005) recommendation to fix the variance component of the slopes at Level 2 of all the unconditional and conditional linear models. Further, since the effect for the intercept of the Pre-DAS control variable was not significant at Level 3, we fixed its random error component for all the unconditional and conditional linear models in order to allow for the full estimation of variance components (Singer & Willet, 2003).

Results

Treatment Adherence and Therapist Effects

To ensure therapists were faithfully implementing EFT for couples, two independent graduate students reviewed a third of each couple's therapy audiotapes. These graduate students were previously trained to a Cohen's Kappa of 0.78 on a therapy adherence checklist (Johnson and Greenberg, 1985; Johnson & Talitman, 1997). They rated therapist statements as falling into one of 16 categories distinguishing between 8 EFT-specific, or 8 non-EFT specific interventions. Raters coded 93.5% of 4143 therapist statements as EFT specific (range of 88.4 % – 92.8%). These raters demonstrated a Cohen's Kappa of 0.71 on all codes. We compared the amount of EFT and non-EFT statements between those couples that did and did not resolve on the DAS at post-treatment and no significant differences were found (x^2 (1, N = 4136) = .035, p = .851). Based on these results, it can be determined that EFT was faithfully implemented by study therapists.

To test for therapist effects on relationship satisfaction growth, conditional linear models were formed for each of the study therapists. We compared the deviance statistics for each of the therapists' models, and then we compared the deviance statistics for each of the therapists' conditional linear models with the unconditional linear model for relationship satisfaction growth. Using the chi-square distribution analysis described above, none of the therapists' conditional linear models were a better fit to the data over one another ($p > 0.05$). Further, none of the therapists' conditional linear models were a significantly better fit to the data when compared to the unconditional linear model for relationship satisfaction growth (p >0.05). Accordingly, we did not control for therapist effects in our subsequent analyses.

Data Cleaning and Preliminary Analysis

We examined the data for entry errors, univariate and multivariate outliers, and distribution normality. The very few outliers that were found were corrected to be within 3.3 SD of their respective means, and all scores were normally distributed. We used a pattern mixture model (drop out/non-engaged status) to evaluate whether missing data was missing at random (MAR) for each of the dependent variables (Gallop & Tasca, 2009). Results indicated that drop out or disengaged status was not significantly associated with relationship satisfaction growth, relationship-specific attachment anxiety and avoidance, secure base use or support. Since we determined that missing data was MAR we did not employ any data substitution methods.

Pre-Post therapy scores. The mean number of sessions for all couples was 21.3 (*SD* = 6.7) with a range of 10 to 35, which translated to approximately 2.5 to 8.75 months.[5] Couples' pre- and post-therapy mean scores on relationship satisfaction, relationship-specific attachment anxiety and avoidance (ECR-SCRM), the SBSS attachment topic scale, secure base use and secure base support are presented in Table 1.

Insert Table 1 about here

Couples' mean level of relationship satisfaction at pre-therapy placed this sample in the moderately distressed range. At post-therapy, couples' mean level of relationship

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[5] When number of therapy sessions was added as a predictor at Level 3 of the unconditional linear models for relationship satisfaction growth, changes in relationship-specific attachment anxiety or avoidance, changes in secure base use or support, the model fit did not significantly improve and/or the parameter was not a significant predictor. Accordingly, we did not control for this variable in subsequent analyses.

satisfaction placed this sample in the adjusted range. At post-therapy, couples' mean relationship-specific attachment anxiety decreased was comparable to the mean generalized romantic attachment reported by non-clinical couples (Shaver et al., 2005), but their mean relationship-specific attachment avoidance was still over the 95% confidence interval of the mean of Shaver et al.,'s (2005) norms.

Clinical Outcomes

Reliable Change Index. We used the Reliable Change Index and the clinical cut-off of 97 recommended by Jacobson and colleagues (1987) to test Hypothesis 1a. Results indicated that 65 % (n = 20) of our couples demonstrated clinically significant recovery (n = 17) or improvement (n =3) on the DAS. A total of 29% (n = 9) of couples did not demonstrate clinically significant change and 6% (n = 2) of couples reported a clinically significant deterioration in relationship satisfaction scores. The pre-treatment to post-treatment effect size based on the paired t-test score (Rosnow & Rosenthal, 2003) was large, d = 0.81, t (31) = -4.43, p < 0.001.

Hierarchical Linear Modelling. Since this was the first time that HLM was used to examine session-by-session changes in relationship satisfaction and relationship-specific attachment anxiety and avoidance, we examined both linear and quadratic time parameters as predictors of change. The deviance statistics indicated that the linear models were a significantly better fit to the data for change in relationship satisfaction and attachment avoidance scores ($p \leq 0.005$). The deviance statistics were equal for the linear and quadratic equations for change in attachment anxiety scores. Accordingly, we used linear time parameters for all subsequent analyses.

Relationship satisfaction. The unconditional linear model for relationship satisfaction demonstrated a significant slope across each sessions, γ_{100} = 0.39, t (30) = 6.36, p

< 0.001 (See Appendix A, Model A). This suggests that couples were reporting significant improvements in their relationship satisfaction at a rate of 0.39 per weekly session. The pseudo R^2 suggests that the linear parameter explained 31% of the within person variance in relationship satisfaction scores over time, which represents a large effect size (Cohen, 1988), and the unconditional linear model was a significantly better fit to the data than the intercept only model, $\chi 2(10) = 531.13$, $p < .001$.

Relationship-specific attachment anxiety. The unconditional linear model for attachment anxiety demonstrated a non-significant slope, $\gamma_{100} = -0.01$, $t\ (30) = -1.77$, $p = 0.09$ (See Appendix A, Model A). This suggests that attachment anxiety did not decrease, for the sample as a whole, at a significant rate over the course of therapy. However, the pseudo R^2 indicated that the linear parameter explained 16% of the within person variance in attachment anxiety, which represents a medium effect size for time on attachment anxiety (Cohen, 1988), and the unconditional linear model was a significantly better fit to the data, than the intercept only model, $\chi 2(10) = 225.69$, $p < .001$.

Accordingly, we conducted a follow-up analysis to determine whether attachment anxiety decreased for a certain subset of our sample couples. Specifically, we examined whether those couples who were coded as successfully completing the last major change event in therapy, the blamer-softening event, demonstrated significant decreases in attachment anxiety[6]. When we analyzed only these couples' post-softening session-by-session scores on attachment anxiety (n=16), a significant decreasing slope was found, $\gamma_{100} =$

[6] Couples' classification into 'softening' and 'non-softening' groups was determined by rater selection and comparison of couples' best session interactions using psychotherapy process measures. Best session interactions of 'softened' couples contained significantly less blaming and belittling behavior, and significantly higher levels of affiliation and emotional experiencing and than the interactions of 'non-softened couples'. These results are described in statistical detail in Article 2.

-0.03, t (14) = -5.87, p <0.001. These results suggest that relationship-specific attachment anxiety did significantly decrease over the course of therapy, at a rate of -0.03 per weekly session; but only for softened couples, and only after the softening event occurred. The pseudo R^2 showed that the linear parameter explained 17% of the within person variance in attachment anxiety scores, which represents a medium effect size (Cohen, 1988) and the unconditional linear model was a significantly better fit to the data than the intercept only model, $\chi 2$ (4, N=16) = 63.97, $p < 0.001$.

Relationship-specific attachment avoidance. The unconditional linear model for attachment avoidance (See Appendix A, Model A) demonstrated a significant slope for, γ_{100} = -0.02, t (30) = -4.18, $p < 0.001$, indicating that attachment avoidance significantly decreased over the course of therapy, at a rate of -0.02 per weekly session. The pseudo R^2 showed that the linear parameter explained 19% of the within person variance in attachment avoidance scores, which represents a medium effect size (Cohen, 1988) and the unconditional linear model was a significantly better fit to the data than the intercept only model, $\chi 2$ (10, N=32) = 281.14, $p < 0.001$.

Changes in pre-post SBSS behaviour. To test Hypotheses 2, which predicted that couples' secure base use and support would significantly increase from pre- to post-therapy, we examined two unconditional linear models. The unconditional linear models for secure base use and secure base support both demonstrated a significant slope from pre- to post-therapy measurements, γ_{100} = 0.62, t (30) = 4.82, $p < 0.001$ and γ_{100} = 0.61, t (30) = 3.58, $p <$ 0.001, respectively (See Appendix A, Model A). These results indicate that couples' mean secure base use and support significantly improved from pre-therapy levels. Both of these unconditional linear models were a better fit to the data than their respective intercept only

models, for secure base use $\chi 2$ (10, N=32) =155.46, $p < 0.001$ and for secure base support $\chi 2$ (10, N=32) = 202.73, $p < 0.001$.

The pre-post effect size for SBSS use and support scales were medium, $d = 0.76$, t (26) = -3.89, $p < 0.001$ and $d = 0.60$, t (26) = -3.07, $p < 0.01$ respectively.

HLM: Mechanisms of Change. Hypothesis 3 predicted that couples' session-by-session decreases in attachment anxiety and attachment avoidance would be significantly associated with increases in relationship satisfaction over the course of therapy (See Appendix A, Model B). We tested this hypothesis in a series of time-varying co-variate analyses. The results of these analyses, along with an additional post-hoc analysis, are displayed in Table 2.

Insert Table 2 about here

Attachment anxiety and relationship satisfaction. The data showed a significant effect of attachment anxiety for the intercept, $\gamma_{200} = -3.93$, t (31) = -6.10, $p < 0.001$, indicating that higher scores in attachment anxiety were significantly associated with lower scores in relationship satisfaction at pre-therapy (see Table 2). The data also showed a significant effect for time varying effect of attachment anxiety, $\gamma_{300} = 0.12$, t (31) = 4.44, $p < 0.001$, indicating that the inverse relationship between attachment anxiety and relationship satisfaction found at pre-therapy increased on a session-by-session basis. Further, adding the time varying co-variate significantly improved model fit, $\chi 2$ (9, N=32) = 47.42, $p < 0.001$.

Attachment avoidance and relationship satisfaction. The data showed a significant effect of attachment avoidance for the intercept, $\gamma_{200} = -3.43$, t (31) = -5.47, $p < 0.001$,

indicating that higher scores in attachment avoidance were associated with lower scores in relationship satisfaction at pre-therapy (Table 2). The data also showed a non-significant effect the attachment avoidance time varying co-variate, $\gamma_{300} = -0.08$, t (31) = -2.00, p = 0.054 (see Table 2). These results do not support our hypothesis that decreases in attachment avoidance would be associated with increases in relationship satisfaction. However, the time varying co-variate model, was a significantly better fit to the data, $\chi 2$ (9, N=32) = 51.40, $p <$ 0.001. This result suggests that changes in attachment avoidance may have had an effect on relationship satisfaction growth, but the effect of these changes did not reach statistical significance in this sample.

Attachment and relationship satisfaction. To test whether changes in attachment avoidance and anxiety uniquely contributed to relationship satisfaction growth over and above one another, we ran a time varying co-variate model with both changes in attachment avoidance and anxiety as predictors of relationship satisfaction growth. Results confirmed those found in the previous models: attachment anxiety, $\gamma_{200} = -3.07$, t (31) = -5.47, $p < 0.001$ and avoidance, $\gamma_{400} = -3.22$, t (31) = -5.27, $p < 0.001$ significantly predicted lower relationship satisfaction scores at pre-therapy. However, while decreases in attachment anxiety, $\gamma_{300} = 0.11$, t (31) = 4.22, $p < 0.001$ were significantly associated with increases in relationship satisfaction, decreases in attachment avoidance were not, $\gamma_{500} = -0.07$, t (31) = -1.89, p = 0.069 (see Table 2).

Discussion

Results of the current study indicated that the majority of our couples reported clinically significant improvements in relationship satisfaction after completing therapy. Moreover, HLM analysis revealed that couples displayed a linear increase in relationship satisfaction over the course of therapy. A subset of the couples, those who completed blamer-

softening (*n*= 16), reported significant decreases in relationship-specific attachment anxiety after completing this event, and the sample as a whole displayed significant decreases in relationship-specific attachment avoidance over the course of therapy. Also, couples' post-therapy relationship-specific secure base use and support was significantly increased from pre-therapy scores.

The time-varying co-variate models revealed that couples' decreases in attachment anxiety were significantly associated with increases in relationship satisfaction; however, contrary to expectations, decreases in attachment avoidance were not significantly associated to changes in relationship satisfaction.

These results provide empirical support for the claim that EFT contributes to increases in couples' relationship-specific attachment security and that changes in relationship-specific attachment anxiety are related to the relationship gains derived from this approach. These results will be explored in relation to the process of change of EFT, followed by a discussion of the implications of these findings for couple therapy and attachment-based clinicians and researchers.

Increases in Relationship-Specific Attachment Security

The increases in the relationship-specific attachment-based behaviours of couples in this study suggest that compared to pre-therapy levels, individuals at post-therapy were more likely to display relationship-specific attachment based behaviour that was reflective of attachment security. Attachment security on the SBSS is defined by an ability to clearly identify and express attachment needs to a partner while also being able to clearly identify, understand, and respond to a partner's cries for intimate connection and emotional support (Crowell et al., 2002). EFT specifically targets partners' attachment affect and behaviour by encouraging them to identify, experience and express the attachment needs underlying their

negative interaction. Further, since EFT therapists encourage partners to start responding to one another's attachment needs with sensitivity and responsiveness, they could be facilitating corrective emotional experiences between partners. These corrective emotional experiences, in turn, would facilitate increases in the degree of attachment security displayed in partners' secure base use and support behaviours.

In addition to demonstrating increases in partners' attachment behaviour, results indicated that couples' self-reported relationship-specific attachment avoidance significantly decreased on a session-by-session basis over the course of therapy. These results suggest that over the course of therapy couples perceived themselves to be less likely to avoid emotional connection with their partner, and more likely to depend on them in times of need. A key component of attachment avoidance is an individual's use of deactivation strategies to cope with negative affect (Mikulincer & Shaver, 2007). These deactivation strategies lead individuals with avoidant attachment not only to deny the experience of negative affect, but also to engage in excessive self-reliance and to withdraw from partners in times of distress (Pietromanaco et al., 2004). Since EFT therapists target withdrawing partners' deactivation affect strategies from the beginning of therapy, it makes sense that partners' attachment avoidance started decreasing early in therapy and continued to so linearly over the course of EFT.

Further to these decreases in relationship-specific attachment avoidance, our results indicated that a subset of couples in our study (i.e., those that completed the blamer-softening event) displayed significant decreases in relationship-specific attachment anxiety after they completed this change event. In *blamer-softening*, the partner who typically holds the criticizing position within the blame/withdrawal interaction cycle approaches their partner from a position of vulnerability by expressing their fear of abandonment and their need for

security in the relationship. In response, the previously withdrawn partner (who had been working on challenging his/her deactivation strategies since early in therapy) reacts to the blamer's vulnerability with warmth and acceptance. Since blaming individuals fear their partners' abandonment in face of their vulnerability (Johnson, 2004), it is consistent that their partners' soothing response during the softening event would led to decreases in their relationship-specific attachment anxiety.

A significant contribution of the current study is its use of two different assessment methods to examine changes in relationship-specific attachment insecurity. Finding increases towards relationship-specific attachment security on a measure of attachment-based behaviour (SBSS), thought to assess unconscious aspects of partners' attachment behaviour, and a measure of self-reported relationship-specific attachment experiences (ECR-SCRM), thought to assess conscious aspects of relationship-specific models of attachment, suggests that EFT may be altering unconscious and conscious models of relationship-specific attachment. Since research has suggested that attachment classifications made by self-report measures may be more influenced by shifts in partner's day to day interactions patterns, than those classifications made by interview or behavioural measures of attachment (Davila & Cobb, 2003; Feeney, 2002), findings increases towards attachment security in both these types of measures supports the validity of these results.

Attachment Contribution to Relationship Satisfaction Growth

Our time varying co-variate models demonstrated that couples' self-reported decreases in their relationship-specific attachment anxiety over the course of therapy were significantly associated with session-by-session increases in their relationship satisfaction. This finding is consistent with the large body of research that has demonstrated a negative relationship between attachment anxiety and relationship functioning (Mikulincer & Shaver,

2007). More specifically, this result supports the continued use of an attachment framework in EFT to understanding and treating relationship distress. Contrary to our prediction, session-by-session decreases in couples' self-reported attachment avoidance were not significantly associated with increases in relationship satisfaction over the course of therapy. Given that the model with changes in attachment avoidance as a predictor of relationship satisfaction growth represented a better fit to the data, it is possible that this result may not have been significant because of our smaller sample size and resulting issues of statistical power.

The lack of significant association between changes in attachment avoidance and relationship satisfaction growth led us to conduct a follow-up analysis to examine whether or not EFT increased relationship functioning for individuals high on pre-therapy attachment avoidance (n= 13 couples with a mean self-reported attachment avoidance scores 2 standard deviations over Shaver et al., (2005) norms, > 3.74). Results indicated that these couples did display a statistically significant linear increase in relationship satisfaction over the course of therapy (γ_{100} = -0.39, t (11) = 8.31, p <0.001).[7] This result is promising given that research has demonstrated that individuals with avoidant attachment generally tend to engage less in the process of therapy and tend to have less successful outcomes than anxiously attached and secure individuals (Shorey & Snyder, 2006).

However, these results also suggest that further research needs to be conducted to determine the mechanisms of change involved in the increased level of relationship satisfaction seen in these couples. For now, we would like to advance the hypothesis that

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[7] This unconditional linear model was a significantly better fit to the intercept only model, $\chi 2$ (10, N=13) = 283.93, p< 0.001).

decreases in attachment avoidance plays not a direct but an indirect role in facilitating relationship satisfaction gains. For example, it is likely that couples' decreases in attachment avoidance facilitated a greater degree of emotional involvement in the process of therapy. This involvement may allow these individuals to better understand that their partners' criticisms are hyperactivated pleas for closeness and intimacy, rather than seeing the criticisms as confirmation that they themselves are inadequate as a partner. Given the dyadic nature of couple therapy outcomes, the information gained from this broadened perspective could be responsible for the linear increase in relationship satisfaction reported by these couples over the course of therapy.

Understanding the Meaning of Change

Results from the current study suggest that couples that complete EFT demonstrate greater attachment security at post-therapy than they display at pre-therapy. These increases in security were displayed in couples' *relationship-specific* models of attachment and couples' relationship-specific attachment behaviour. Changes in relationship-specific attachment are best understood as state-like changes in attachment, rather than changes in their trait-like models of generalized attachment. However, past research (Pierce & Lydon, 2001) has demonstrated that changes in relationship-specific attachment orientations can explain a small amount of the variance (6-7 %) in the changes seen in individuals' self-reported general attachments over time. This suggests that couples' changes in their relationship-specific attachment, especially if maintained over time, could lead to changes in their generalized attachment orientations. However, in order to examine if EFT can also change generalized models of attachment, future studies would need to include an examination of session-by-session changes in self-reported general attachment, as well as relationship-specific attachment.

Conclusions

The results of this study provide empirical evidence for the theoretical and clinical assumption that EFT facilitates increases in partners' relationship-specific models of attachment security. According to Mikulincer and Shaver (2007) research is limited on how attachment orientations and behaviour change over the course of therapeutic interventions. Since our study is the first known investigation of how a couple therapy can facilitate increases in partners' consciously and unconsciously expressed relationship-specific models of attachment security, not only does it represent a significant contribution to the couple therapy literature, but by providing information on how attachment orientations and behaviour changes over the course of therapy, it also represents a significant contribution to the attachment theory. A follow-up study with these couples is currently being conducted, in order to determine whether these changes in attachment are stable over time.

Results of the current study also demonstrated that decreases in relationship-specific attachment anxiety were significantly associated with couples' increases in relationship satisfaction. This finding highlights how targeting couples' attachment-based affect and behaviour in therapy can be an important component in targeting relationship distress in couple therapy (Davila, 2003).

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Article 1 - Appendix A: Selected Multilevel Models

Model A: Unconditional Linear Models for Main Outcome Variables

Level-1 Model: $Y_{tij} = \pi_{0ij} + \pi_{1ij}*(time_{tij}) + e_{tij}$

Level-2 Model: $\pi_{0ij} = \beta_{00j} + \beta_{01j}*(individual\_prescore_{ij}) + r_{0ij}$

$\pi_{1ij} = \beta_{10j} + \beta_{11j}*(individual\_prescore_{ij})$

Level-3 Model: $\beta_{00j} = \gamma_{000} + \gamma_{001}(couple\_prescore_{j}) + u_{00j}$

$\beta_{01j} = \gamma_{010}$

$\beta_{10j} = \gamma_{100} + \gamma_{101}(couple\_prescore_{j}) + u_{10j}$

$\beta_{11j} = \gamma_{110} + u_{11j}$

π_{0ij} = initial status for the individual (intercept); β_{00j} = couple's initial status on the dependent variable; γ_{000} = all couples' mean initial status; π_{1ij} ($time_{tij}$) = the linear rate of change for the individual across each session (slope); β_{10j} = average linear rate of change for the couple; γ_{100} = mean linear rate of change of all couples; $e_{tij,}$ r_{0ij}, $u_{00j,}$ u_{10j} = the residuals.

Model B: Conditional Linear Model for DAS Co-Variate Analysis

Level-1 Model: $DAS_{tij} = \pi_{0ij} + \pi_{1ij}*(time_{tij}) + \pi_{2ij}*(predictor\ variable_{tij}) + \pi_{3ij}*(predictor\ variable \times time_{tij}) + e_{tij}$

Level-2 Model: $\pi_{0ij} = \beta_{00j} + \beta_{01j}*(individual\_preDAS_{ij}) + r_{0ij}$

$\pi_{1ij} = \beta_{10j} + \beta_{11j}*(individual\_preDAS_{ij})$

$\pi_{2ij} = \beta_{20j} + r_{2ij}$

$\pi_{3ij} = \beta_{30j} + r_{3ij}$

Level-3 Model: $\beta_{00j} = \gamma_{000} + \gamma_{001}\,(couple\_preDAS_{j}) + u_{00j}$

$\beta_{01j} = \gamma_{010}$

$\beta_{10j} = \gamma_{100} + \gamma_{101}(couple\_preDAS_{j}) + u_{10j}$

$\beta_{11j} = \gamma_{110} + u_{11j}$

$\beta_{20j} = \gamma_{200} + u_{20j}$

$\beta_{30j} = \gamma_{300} + u_{30j}$

γ_{000} = all couples grand mean initial status on DAS when controlling for predictor variable and predictor variable * time; u_{00j} = residual; γ_{100} = all couples average rate of change when controlling for predictor variable and predictor variable * time; u_{10j} = residual; u_{11j} =residual; γ_{200} = grand mean of the effect of the predictor variable on DAS intercept while controlling for all other predictors in the equation, u_{20j} = residual, γ_{300} =grand mean of the effect of the predictor by time interaction while controlling for all other predictors in the equation, u_{30j} = residual.

Table 1

Pre- and Post -Therapy Couple Means

	Pre-Therapy *(SD)*	Post- Therapy *(SD)*
DAS Total Scale	87.8 (8.1)	99.2 (15.2)
ECR-SCRM- Anxiety	3.9 (0.61)	3.5 (0.88)
ECR-SCRM- Avoidance	3.5 (0.77)	3.2 (0.78)
SBSS Attachment Scale	4.34 (1.3)	5.41 (1.4)
SBSS-Secure Base Use	3.34 (0.66)	3.95 (0.81)
SBSS-Secure Base Support	3.64 (0.85)	4.25 (0.95)

Note: Pre-Therapy n = 32, Post-Therapy n = 31, SBSS Post, n = 27

	Coefficient	*SE*	*t*	*p*	σ^2
Intercept, γ_{200} (Anxiety)	-3.93	0.65	-6.10	<0.001	5.684
Slope, γ_{300} (Anxiety x Time)	0.12	0.03	4.44	<0.001	0.012
Intercept, γ_{200} (Avoidance)	-3.43	0.66	-5.21	<0.001	7.450
Slope, γ_{300} (Avoidance x Time)	-0.08	0.04	-2.00	0.054	0.030
Post-Hoc Analyses					
Attachment Anxiety & Avoidance					
Intercept, γ_{200} (Anxiety)	-3.07	0.56	-5.47	<0.001	3.837
Slope, γ_{300} (Anxiety x Time)	0.11	0.02	4.22	<0.001	0.008
Intercept, γ_{400} (Avoidance)	-3.22	0.61	-5.27	<0.001	7.201
Slope, γ_{500} (Avoidance x Time)	-0.07	0.04	-1.89	0.069	0.028

Table 2

Effects and Variance Components for Predictor Variables for Co-Variate Analyses

Note. n = 32 couples. Degrees of freedom for t-test = 31. σ^2 = the between-couple variance

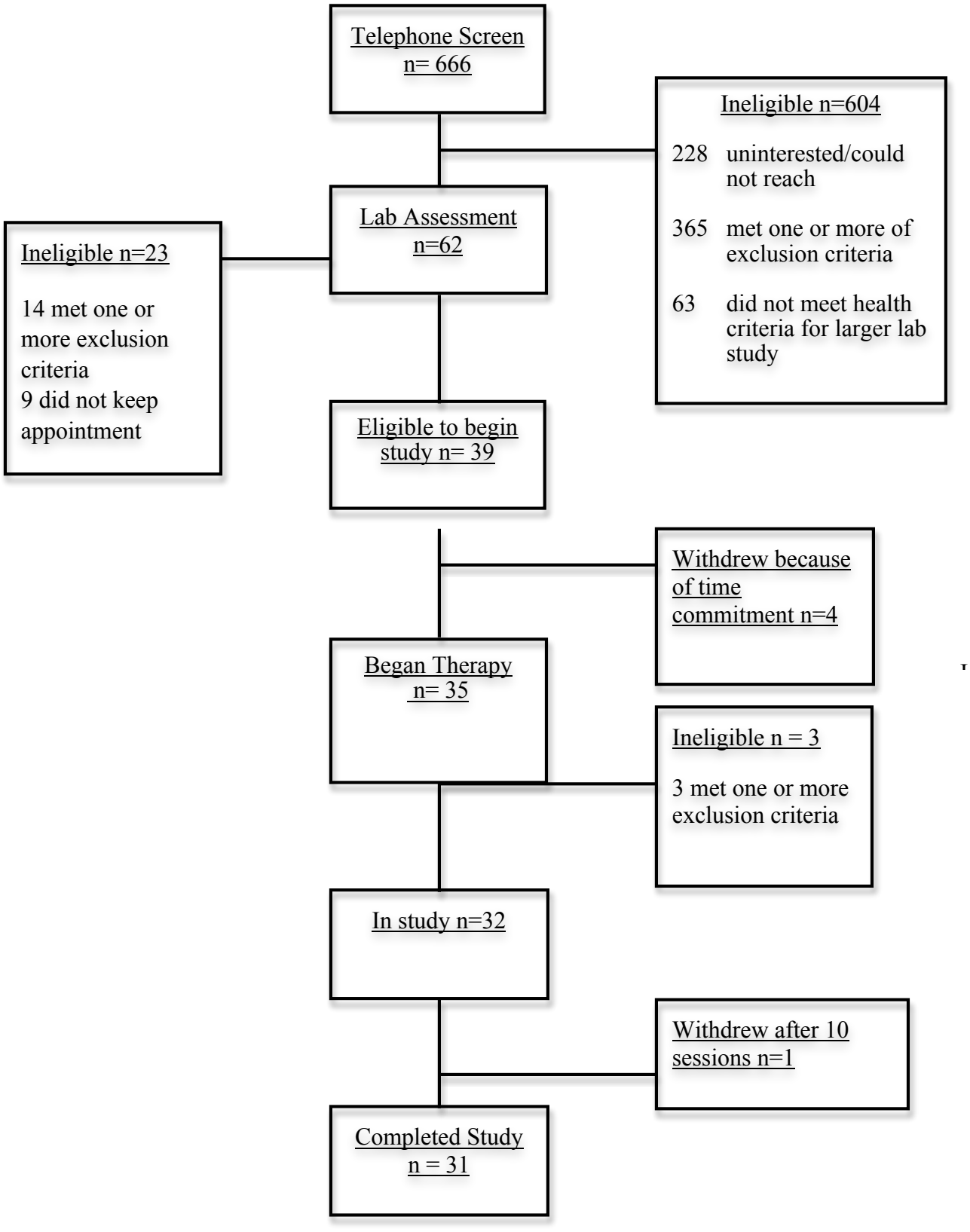
Telephone Screen
n= 666
Ineligible n=604
228 uninterested/could not reach
365 met one or more of exclusion criteria
63 did not meet health criteria for larger lab study
Lab Assessment
n=62
Ineligible n=23
14 met one or more exclusion criteria
9 did not keep appointment
Eligible to begin study n= 39
Withdrew because of time commitment n=4
Began Therapy
n= 35
Ineligible n = 3
3 met one or more exclusion criteria
In study n=32
Withdrew after 10 sessions n=1
Completed Study
n = 31

Figure 1: Couple Eligibility Screening Chart

Article 2: The Impact of Blamer-Softening on Romantic Attachment in Emotionally Focused Couples Therapy

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Abstract

Emotionally Focused Couples Therapy (EFT: Johnson, 2004) treats relationship distress by targeting couples' relationship-specific attachment insecurity. We used Hierarchical Linear Modelling (Singer & Willet, 2003) to examine if the blamer-softening change event in EFT caused intercept (i.e., level) and slope (i.e., rate of change) discontinuities in softened couples' trajectory of change in relationship satisfaction and relationship-specific attachment. Softened couples (n=16) reported a significant increase in relationship satisfaction and a significant decrease in attachment avoidance at the softening session. Further, although softened couples' displayed an initial increase in relationship-specific attachment anxiety at the softening session, their scores started to significantly decrease in post-softening sessions. Results demonstrated the importance of the blamer-softening change event in facilitating decreases in couples' relationship satisfaction and relationship-specific attachment insecurity over the course of therapy.

The Impact of Blamer-Softening on Romantic Attachment in Emotionally Focused Couples Therapy

Emotionally Focused Couple Therapy (EFT; Johnson, 2004) is an approach to couple therapy which views relationship distress as resulting from partners' engagement in rigid and negative interaction cycles. These negative interaction cycles result from partners' unacknowledged and unmet attachment needs (Johnson & Whiffen, 1999). Accordingly, the process of change in EFT helps couples to develop new positive interaction cycles that include the vulnerable acknowledgment of attachment needs for security and care, and an improved ability to respond to one another with attuned support.

Past EFT process research (Greenberg, Ford, Alden & Johnson, 1993; Johnson & Greenberg, 1988) demonstrated the importance of a key therapeutic event in therapy, the blamer-softening change event, to successful therapeutic outcomes. Specifically, researchers found that couples who complete the blamer-softening event (i.e., softened couples), compared to couples who do not complete a softening event (i.e., non-softened couples) are much more likely to demonstrate shifts in their negative interaction styles over the course of therapy. Further, research showed that the completion of blamer-softening distinguishes between those couples who do and do not move out of relationship distress in therapy (Johnson & Greenberg, 1988); and more recently between those couples who do and do not report significant decreases in relationship-specific attachment anxiety over the course of EFT (Burgess Moser, Johnson, Dalgleish, Tasca & Lafontaine, 2012).

Although this previous research demonstrated that the completion of blamer-softening leads to increased relationship and attachment functioning, the immediate impact of the blamer-softening event on clients' outcomes has not been fully investigated. Accordingly, the main goal of the current study was to examine the impact of the blamer-

softening change event on couples' level and trajectory of change in relationship satisfaction and relationship-specific attachment at the softening session and in post softening sessions over the course of EFT.

Understanding how couples' scores on these key outcomes immediately shift in relation to the blamer-softening event will provide EFT researchers and therapists with a better understanding of clients' affective reactions to key change events in therapy. This result could also provide information on the type of interventions needed to facilitate increase partners' attachment insecurity over the course of therapy.

Emotionally Focused Couple Therapy

In their meta-analysis of EFT outcomes, Johnson, Hunsley, Greenberg & Schindler (1999) reported a 1.31 effect size for EFT on relationship satisfaction. These authors also reviewed EFT research that demonstrated 86% of couples reporting improvements in relationship satisfaction at therapy termination. Relationship-satisfaction gains found in EFT have found to be stable up to 3 years after therapy (Halchuk, Makinen, & Johnson, 2010). EFT also results in increases in intimacy and relationship satisfaction over wait-list controls and behavioural problem solving approaches (Denton, Burleson, Clark, Rodrigues, & Hobbs, 2000; Johnson & Greenberg, 1985), and pre-post-therapy increases in trust and forgiveness (Makinen & Johnson, 2006).

Attachment Theory and EFT

EFT theorists and couple researchers have suggested that one of the reasons why EFT is effective is its use of attachment theory to understand and treat relationship distress (Davila, 2003; Johnson, 2004). According to attachment theory (Bowlby, 1969/1982) individuals form internal working models of attachment based on the consistency and availability of their primary attachment figures. Over time, these internal working models,

which are largely unconscious, are used to estimate the availability of others to provide one another with attuned responsiveness in times of need (Bretherthon & Muholland, 1999).

Individual differences in adults' internal working models of attachment have been assessed through their conscious and self-reported need for emotional and physical intimacy in close relationships and the manner in which they negotiate this need (Brennan, Clark & Shaver, 1998). Attachment researchers (Brennan et al., 1998) argue that individual differences in attachment orientations fall along two dimensions: attachment anxiety and attachment avoidance. High levels of attachment anxiety, and/or attachment avoidance define attachment insecurity, and low levels of attachment anxiety and attachment avoidance define attachment security (Brennan et al., 1998).

Individuals high attachment anxiety faced inconsistent and unreliable support from their primary caregivers (Mikulincer & Shaver, 2007). Accordingly, these individuals learned to hyperactivate their attachment needs in order to gain emotional support they desire. Hyperactivation of attachment needs involves clinging behaviour and a belief that negative affect is overwhelming and cannot be regulated independently of others (Shaver & Mikulincer, 2002). In romantic relationships, these individuals report a fear of abandonment (Brennan et al., 1998), engage in compulsive careseeking that is misattuned with their partners' needs (Collins & Ford, 2010), and display difficulty understanding their partners' perspective during disagreements (Bouthillier et al., 2002; Péloquin, Lafontaine, & Brassard, 2011).

Individuals high in attachment avoidance faced rejection and hostility when they disclosed their attachment needs to their primary caregivers. Accordingly, these individuals learned to deactivate or downplay their attachment needs by repressing or avoiding their negative affect (Shaver & Mikulincer, 2002). In their romantic relationships, these

individuals rarely disclose their intimate feelings (Feeney, 1999), nor do they display sensitivity and responsiveness during laboratory and daily support situations (Collins & Ford, 2010; Davila & Kashy, 2009). Research has also demonstrated that individuals high in attachment anxiety and avoidance, compared to individuals with attachment security, are more likely to engage in escalating conflict and use withdrawal as a method of coping (Pietromonaco, Greenwood, & Barrett, 2002).

Individuals with attachment security were provided with consistent and reliable emotional support from their primary caregivers. These individuals display an ability to regulate strong affect independently, but also display an understanding that others are available to soothe them should they become overwhelmed (Shaver & Mikulincer, 2002). In their romantic relationships, they report greater levels of trust, intimacy, and satisfaction (Fraley & Shaver, 2000). These individuals also display more attuned caregiving during laboratory and daily support situations (Collins & Ford, 2010; Davila & Kashy, 2009).

As this review demonstrates, attachment security has a positive impact on individuals' affect regulation strategies and romantic relationship functioning. However, only a few studies have examined if their therapeutic interventions increase clients attachment security over the course of therapy.

Attachment as Therapeutic Outcome

Attachment theorists and researchers (Bowlby, 1988; Shorey & Synder, 2006) argue that the therapeutic relationship can facilitate shifts in client's attachment insecurity over the course of therapy. This occurs when therapists respond to their clients' attachment needs in more responsive manner than they had been addressed by close others in the past. Previous research demonstrated that approximately 30-40% of participating clients shifted their unconscious internal working models of attachment, as measured by the Adult Attachment

Interview (AAI; Main, Kaplan & Cassidy, 1985), from insecurity to security after completing short and longer-term individual psychodynamic therapy (Diamond, Stovall-McClough, Clarkin & Levy, 2003; Fonagy & colleagues, 1995; Travis, Binder, Bliwise, & Horne-Moyer, 2001). Tasca, Balfour, Ritchie, and Bissada (2007) reported decreases in women's self-reported, consciously expressed, attachment anxiety over the course of cognitive behavioural and psychodynamic-interpersonal group therapy.

It is noteworthy that these studies examined individual or group therapy where therapists or other group members acted as the surrogate attachment figures, rather than couple therapy where clients' engage with their current romantic partner, with whom they have an already established attachment relationship. Further, none of these studies linked the reported increases in attachment security with specific therapeutic interventions. The following section will review the process of change in EFT and why certain change events within this approach have associated with shifts in relationship-specific attachment security over the course of therapy.

Process of Change in EFT

As indicated, EFT views relationship distress as arising from couples engagement in the blame/withdrawal interaction cycle (Christensen & Heavey, 1990). Within this cycle, one person typically adopts the position of the blamer, and the other, the withdrawer. The rigid engagement in this interaction cycle is predictive of relationship distress and dissolution (Gottman & Levenson, 2000). Within EFT, the blame-withdraw cycle, and variations of this cycle, are understood to result from partners' unidentified and unexpressed attachment needs. Specifically, individuals' blaming behaviour can be understood as hyperactivated pleas for unmet attachment needs for attention and responsiveness. On the other hand, withdrawal or avoidant behaviour results from both the rejection and helplessness an individual feels when

they are unable to please their partner, as well as a deactivation of their own attachment needs for acceptance and respect (Johnson & Whiffen, 1999; Shaver & Mikulincer, 2002).

Accordingly, the process of change in EFT aims to facilitate shifts in partners' ability to understand, experience, and express their attachment related affect, as well as in partners' understanding and manner of responding to one another's attachment needs. The process of change within EFT focuses on helping couples through three major change events; *cycle de-escalation, withdrawer reengagement, and blamer-softening*. In *cycle de-escalation*, partners start to recognize how their positions within the cycle are caused by unmet attachment needs for emotional intimacy and care (Johnson, 2004). In *withdrawer reengagement*, withdrawing partners start to experience and express their unmet attachment needs for security and care, and they become more emotionally available and responsive to their partners' need for connection (Johnson, 2004). In *blamer-softening*, blaming spouses trust their partners' newly responsive behaviour by expressing their own longing for security and care in the relationship. This emotional vulnerability is rewarded when their previously withdrawn partner accurately and sensitively express support during this key change event. Once the blamer-softening event occurs, both partners have learned how to recognize and sensitivity respond to one another's bids for emotional connection. This new pattern of engagement serves as a powerful bonding moment, one that helps to define the relationship as a safe haven and a secure base.

Research has demonstrated that the blamer-softening change event is associated with shifts in partners' negative interaction cycles and relationship satisfaction gains over the course of therapy. Specifically, softened couples, compared to non-softened couples, display best session interactions that contain more affiliative and less blaming statements, and

statements that are higher on emotional experiencing (Greenberg et al., 1993; Johnson & Greenberg, 1988). Softened couples, compared to non-softened couples, are also more likely to move out of relationship distress at the end of EFT (Johnson & Greenberg, 1988).

Burgess Moser and colleagues (2012) also highlighted the role of blamer-softening in facilitating increases in partners' relationship-specific attachment security over the course of EFT. Specifically, although their sample as a whole reported significant improvement in attachment security, couples' relationship-specific attachment anxiety only significantly decreased for softened couples and only after the blamer-softening event had occurred.

These results however, raised questions of *how* softened couples' relationship-specific attachment anxiety scores started to decrease in relation to blamer-softening. Further, information was not provided on how the completion of blamer-softening impacted softened couples' relationship-specific attachment avoidance and relationship satisfaction scores over the course of therapy. Directly linking the completion of a blamer-softening event with these relationship-specific attachment outcomes would provide support to the claim that the process of change in EFT, as evidence by the completion of the blamer-softening event, rather than external factors, facilitated couples' to increase relationship-specific attachment security.

The Present Study

The goals of this study were to examine: (a) how couples' levels of relationship satisfaction and relationship-specific attachment anxiety and avoidance were immediately impacted by a blamer-softening event, and (b) whether the rate of change of change in relationship satisfaction and attachment variables shifted after the completion of the blamer-softening event. To do so, we examined whether blamer-softening led to intercept (level) and

slope (rate of change) discontinuities in these key outcomes. Specific study hypotheses included:

Hypothesis 1. Softened couples, compared to non-softened couples, will report significantly more affiliative statements (i.e., disclosing and expressing), significantly less hostile statements (i.e., belittling and blaming) statements in their best session interactions. Softening couples, compared to non-softened couples, will also report significantly higher levels of emotional experiencing during best session interactions.

Hypothesis 2. Softened couples will report significant and immediate increases in their self-reported relationship satisfaction, and significant and immediate decreases in their relationship-specific attachment anxiety and attachment avoidance at their softening sessions. Further, softened couples will display a greater (steeper) rate of change in relationship satisfaction, attachment anxiety and attachment avoidance in the post-softening sessions, in comparison to the rate of change they displayed before this session.

Method

Participants

The participants from the current study are those investigated in Burgess Moser and colleagues' (2012) research. The mean age of women and men in their sample was 44.1 (*SD* = 6.7) and 45.3 (*SD* = 8.2) respectively. The sample consisted of predominately Caucasian (93.8%) individuals who reported their first language to be English (77%). The majority of couples were married (93.8%) and 6% (n=2) of couples were common-law. Couples reported a mean length of relationship of 17 years (*SD* = 8.4). A total of 9 (14%) couples reported being previously married. Many couples in the sample reported having at least one child (96%) from their current relationship, and 6 (19%) couples reported having 1 to 2 children from a previous relationship.

Outcome Measures

The Dyadic Adjustment Scale. The Dyadic Adjustment Scale (DAS; Spanier, 1976) is a 32- item measure of romantic relationship satisfaction. This measure yields four subscales and a total score, and only the total scale was used in this analysis. Scores on the total scale can range between 0-151; and higher scores indicate greater dyadic satisfaction. Spanier (1976) reported a total score of 114.8 (*SD* = 17.8) for married individuals, and 70.7 (*SD* = 23.8) for divorced individuals. This total scale demonstrates high levels of internal consistency (α = 0.96; Spanier, 1976) and a high 2-week test-retest reliability score (*r* = 0.87; Carey, Spector, Lantinga & Krauss, 1996). For the current study, total scale internal consistency ratings ranged between α = 0.81-0.98 over all the assessments periods. A cut off score of 97 was used to determine martial distress.

The Experiences in Close Relationships Scales. The Experiences in Close Relationships Scale (ECR; Brennan et al., 1998) and its Short form (ECR-SF; Wei, Russell, Mallinckrodt, & Vogel, 2008) are measures of generalized romantic attachment. With permission (P. Shaver, personal communication, December 6, 2006, and M. Wei, personal communication, April 5, 2008) the current study used revised versions of these measures. Modifications included instructing partners to think about how they have felt about their current romantic partner, rather than romantic partners in general.

The Experiences in Close Relationship-Specific and Current Relationship Modification (ECR-SCRM; 36 items), and its Short Form (ECR-SCRM-SF; 12 items) assesses individuals' consciously reported, relationship-specific attachment orientations. Both the long and short versions of these measures have individuals' rate items on a 7 point-Likert scale, where higher scores indicate greater relationship-specific attachment anxiety or

attachment avoidance. In the current study, reliability co-efficients for the subscales of the ECR-SCRM were high (i.e., attachment anxiety, 18 items, α = 0.86 to 0.97, and attachment avoidance, 18 items, α = 0.86 to 0.97). The reliability co-efficients for the ECR-SCRM-Short Form were adequate; over 21 sessions the average reliability for the attachment anxiety subscale (6 items) was α = 0.76 and for the attachment avoidance subscale (6 items) the average reliability was α = 0.79.

Post Session Resolution Questionnaire (PSRQ) is an adapted version of Orlinsky and Howard's (1975) Therapy Session Report Questionnaire. Partners rate how much the session moved them towards a resolution of their problem. The PSRQ contains four items, the first three are rated on a 5-Likert scale, and the last item is rated on a 7-point Likert scale. The first three items of the measure are summed together for a total PSRQ score; where higher scores are indicative of little perceived change and lower scores indicative of much perceived change. In the current study, this measure demonstrated moderate internal consistency, with an average reliability score over 21 sessions at α = 0.82.

Psychotherapy Process Measures

Structural Analysis of Social Behaviour (SASB). The Structural Analysis of Social Behaviour (SASB; Benjamin, Foster, Roberto, & Estroff, 1986) is an interpersonal coding system that has been used to examine the full range of interpersonal interactions displayed by individuals within psychotherapy sessions. For the current study, we used the 'two-word cluster model' (Benjamin, 1987) and the procedures described by Benjamin, Giat & Estroff (1981) for coding interactions between dyads. First, we coded partners' statements on two of the three interpersonal grids: (1) statements that are focused on or about the self, and (2) statements that are focused on or about the other. We then rated partners' statements based

on their level of affiliation on the horizontal axis, and their level of interdependence on the vertical axis. This rating system allowed us to rate partners' talk turns as falling within 16 different clusters of behaviour (8 clusters for each interpersonal grid). For the current study, we chose only to examine differences in statements that fell within the 'Disclosing and Expressing' or the 'Blaming and Belittling' clusters. These clusters were chosen based on their ability to reflect successful treatment outcomes, i.e., an increased level of affiliation and decreased level of hostility (Benjamin, 1977; Johnson & Greenberg, 1988). In terms of validity, Humphrey, Apple and Kirschenbaum (1986) reported significant correlations between ratings of family interactions on the SASB and on the Martial Interaction Coding System (Robin & Weiss, 1980). Reliability for this measure is adequate to high with Kappas between 0.70 and 0.85 (Benjamin, 1986; Greenberg et al., 1993). For the current study, Cohen's weighted kappa for quadrants and clusters inter-rater reliability ranged between 0.81 and 0.84. These scores represent a high amount of agreement between coders (Landis & Koch, 1977).

The Experiencing Scale (ES). The Experiencing Scale (ES; Klein, Mathieu-Coughlan, & Kiesler, 1986) is a 7-point rating scale used to rate clients' in-session level of emotional experiencing. This measure is considered to be extremely sensitive in assessing shifts in couples' emotional involvement in therapy. Lower ratings on this measure are indicative of disclosures that exhibit a lack of emotional self-awareness, demonstrate superficiality and a focus on externalized events or behaviour (Klein et al., 1986). High ratings on this measure are indicative of disclosures which exhibit newly discovered emotions and a synthesis of these emotions, which indicate higher level of self-understanding (Klein et al., 1986). In terms of validity, outcomes on the ES have been highly correlated with client variables of introspectiveness and cognitive complexity (Klein et al., 1969).

Moderate to high inter-rater reliability coefficients have been reported for the ES, with scores ranging between 0.75 - 0.92 (Klein, Mathieu, Kiesler & Gendlin, 1969; Klein et al., 1986). For the current study, the inter-rater agreement for the ES, using Cohen's weighted kappa, ranged between 0.75 and 0.94. Again, these scores represent a moderate to high amount of agreement between the raters (Landis & Koch, 1977).

Procedure

Eligibility criteria and screening. Burgess Moser et al. (2012) recruited participants from advertisements in local newspapers and in community agencies. Eligible couples had to be exclusively involved and living with one another for at least one year. Couples had to report relationship satisfaction DAS scores between 80-97. Based on Spanier's (1976) norms these scores represent moderate levels of relationship distress. Couples also had to report relationship-specific attachment insecurity on the ECR-SCRM. Partners were considered insecurely attached if their pre-therapy scores were over the 95% confidence interval of the ECR norms presented by Shaver, Schachner, and Mikculincer (2005). Burgess Moser and colleagues (2012) describe all eligibility criteria and screening procedures in detail and interested readers are referred to their manuscript.

Study assessment and therapy delivery. Partners provided informed consent at the first research session, as required by the involved research institutions. Couples then completed a series of demographic and pre-therapy questionnaires. Eligible couples were then randomly assigned to 13 practicing psychologists and/or social workers at a local private practice. All therapists had at least 5 years experience in Emotionally Focused Couple Therapy. The mean number of sessions for all couples was 21.3 (SD = 6.7) with a range of 10 to 35 sessions. Burgess Moser and colleagues (2012) reported that based on a therapy adherence check, study therapists faithfully implemented EFT. Partners completed an

assessment package after every therapy session and this package took approximately 30 minutes to complete. Couples completed a 1½ hour assessment at the end of therapy. Participants were financially reimbursed for the time it took to complete the research component of the study ($200.00 a couple).

Psychotherapy Process Analysis

Prior to conducting our HLM analysis, we identified those couples that did and did not achieve a softening event in therapy. Similar to previous EFT process research, we confirmed the accuracy of these classifications using codes of partners' best session interactions on psychotherapy process measures.

Rater training. Graduate students in psychology coded the psychotherapy process data. These students each had at least one year of clinical experience in EFT. Raters received 16 hours of training on each of the ES and the SASB. They reached a Cohen's Kappa of 0.80 on practice segments before coding the transcripts for the current study.

Session selection. Partners' talk turns during their 'best' and second sessions were coded on the SASB and the ES. For the purpose of this study, 'best sessions' refers to the session in which the couple completed a successful softening event or the session in which the couple displayed the closest approximation to this event. We also coded couples' second sessions to ensure that couples interaction patterns did not significantly differ prior to the blamer-softening change event.

We used several criteria to identify couples' best session. First, study therapists identified couples' best session. Second, partners' PSRQ ratings were reviewed to determine their highest rated session. In the few instances that partners' highest rated session was different than the session identified by their therapist, both sessions were marked for coder review.

Once these best sessions were identified, coders reviewed audiotapes of these sessions to identify those segments to be transcribed for coding. To choose the appropriate session segments, they listened for a series of therapist and client markers to identify the beginning and end of the blamer-softening event (Bradley & Furrows, 2004). The pattern of responses that were used to classify whether or not a couple achieved a softening event were defined prior to audiotape and transcript review, and documented in a checklist. A couple achieved a softening event if the blaming partner emotionally reached for their partner from a position of vulnerability, and the formerly withdrawn partner processed his/her new experience of the blamer's vulnerability with the therapist and their partner, and responded to the blaming partner with support and understanding (Johnson, 2004). Based on these criteria, independent raters reached a Cohen's Kappa of 0.81 on couples' softening status and any disagreements were resolved through consensus.

For the best session, the 10-minute segment that most closely approximated a softening event was chosen for transcription. For the second session, 10-minute segments from 20 minutes into the session were chosen for transcription.

Confirming softening classifications. Softening classifications were deemed accurate if softened couples, compared to non-softened couples, had a greater proportion of interactions coded on the SASB as "disclosing and expressing" during their best session interactions. Softened couples, compared to non-softened couples, also had to have a lower proportion of interactions coded as "belittling and blaming" during their best session. Finally, the emotional tone of softened couples' best sessions interactions had to reach a mode of 4 and peak of 5/6 on the ES, and be significantly higher than the ES codes of non-softened couples' best session interactions.

Statistical Analyses

Psychotherapy process analyses. Couples' SASB talk turn codes were compared in a series of two (softening vs. no softening) by two (present or absence of response) chi-square analyses. We reported Yates Correction for Continuity to compensate for any overestimations in the chi-square statistic resulting from a 2 x 2 analysis (Pallant, 2005). An independent sample t-test was conducted to determine whether softening status differentiated between each partners' levels of emotional experiencing during both their second and best sessions. We repeated these analyses for couples' second session interactions.

Hierarchical Linear Modelling. Hierarchical linear modelling for nested longitudinal designs (Singer & Willet, 2003) is a method of examining repeated measures data that is nested within multiple levels. In the present study, the repeated measurements (Level 1) of the dependent variables are nested within individual partners (Level 2), and individual partners are nested within couples (Level 3). Given that we are interested in how couples change over the course of therapy, only intercept and slope effects at Level 3 are reported.

We used HLM (Singer & Willet, 2003) to examine the relationship between the completion of blamer-softening to session-by session changes in couples' self-reported relationship satisfaction, relationship-specific attachment anxiety and attachment avoidance. To do so, we created two dummy variables. First, Soft_Intercept identified if an individuals' score was from a session that occurred before the couples' softening event (0) or from a session during or after the couples' softening event (1). This variable was used to model any shift in level of scores at the softening session, which is known as an intercept discontinuity (Singer & Willet, 2003). Second, Soft_Slope, identified sessions that occurred before the couples' softening event (0), or sessions that occurred after the couples' softening event but

coded in a time dependent manner (i.e., 1, 2, 3, 4, 5…*t*). This provided a time dependent variable that varied at the same rate as our original time variable, but only in the post-softening sessions. Accordingly, the Soft_Slope variable allowed us to model rates of change of key dependent variables after the softening event, which is known as a slope discontinuity (Singer & Willet, 2003). Since not every couple experienced a softening, and the couples that did experience a softening did so at different time points, we modelled person-specific discontinuity models.

To test our hypotheses, the Soft_Intercept and Soft_Slope were added to Level 1 of the unconditional linear models first reported by Burgess Moser and colleagues (2012; See Appendix A, Model A). This created models that examined intercept and slope discontinuities in couples' self-reported relationship satisfaction and relationship-specific attachment over the course of therapy (See Appendix A: Model B). To examine the significance of our findings, we first examined the statistical significance of our intercept and slope parameters. We then compared our discontinuity models with their respective unconditional linear models and reported incremental model fit based on the deviance statistics (Singer & Willet, 2003). These deviance statistics are based on the -2 log likelihood from maximum likelihood estimation (MLE). Lower deviance statistics represent a better fitting model to the data. We determined statistically significant differences between models using the chi-square distribution. Degrees of freedom for the resulting chi-square value are the difference in the number of parameters in the nested models. Discontinuity models were determined to be a better fit to the data if the difference between the deviance statistics of the two models was significant. We used full maximum likelihood estimation for all HLM analyses.

Results

Data Cleaning and Preliminary Analysis

Burgess Moser and colleagues (2012) reported that outcome scores were normally distributed and any outliers were corrected to be within 3.3 SD of their respective means (Tabachnick & Fidell, 2001). These authors (2012) used a pattern mixture model approach to assess the impact of missing data and found that data was missing at random (MAR). Accordingly, no data implementation techniques were used.

As originally reported by Burgess Moser and colleagues (2012), at pre-therapy couples reported moderate levels of relationship distress (87.8, *SD*= 8.1; Spanier, 1976). At the end of therapy, the majority of couples reported improved or recovered levels of relationship distress (65%, n=20) as determined by the Reliable Change Index (Jacobson & Traux, 1991). At post-therapy, couples' relationship-specific attachment anxiety decreased to the normative range (*M* = 3.5, *SD* =0.77; Shaver et al., 2005); however, at post-therapy their relationship-specific attachment avoidance was still over the 95% confidence interval of the mean reported by Shaver et al., 2005 (*M* = 3.2, *SD* = 0.78). Specific to the current study, partners' session-by-session scores on the PSRQ ranged between 4.5 (*SD* =2.1) and 13.8 (*SD* =2.1), with higher scores reflecting lower perceived change.

For the current study, we ran a series of conditional linear models to determine if any demographic variables were associated with changes in relationship-specific attachment anxiety or attachment avoidance over the course of therapy. Results indicated that couples in shorter-term, compared to those in longer-term relationships, displayed a steeper decline in relationship-specific attachment avoidance (γ_{102} = -0.0001, t (26) = -2.94, p= 0.006). Since there was no significant association between couples' relationship length and their softening

classification (r (54) = 0.03, p = 0.83), we did not control for this demographic variable our analyses.[8]

Psychotherapy Process Examination

Partners' cluster response frequencies on the SASB and their mean mode and peak ES scores are displayed in Table 1. Results indicated that softened couples, compared to non-softened couples, demonstrated significantly more disclosing and expressing statements and significantly less belittling and blaming statements on the SASB during their best session interactions (χ^2 = (1, N = 488) = 6.35, p = 0.01) and (χ^2 = (1, N = 488) = 20.54, p < 0.001) respectively. Statements within softened couples' best session interactions, compared to statements in the non-softened couples' best session interactions, reflected a higher degree of emotional exploration and emotional integration on the ES (Mode, t (62) = -6.23, p < 0.001, 95% CI [-1.34, -0.68]; Peak, t (62) = -8.08, p < 0.001, 95% CI [-1.71, -1.03].

Softened couples, compared to non-softened couples, were coded as demonstrating more disclosing and expressing behaviours in their second session (χ^2 = (1, N = 488) = 16. 38, p < 0.001). This result suggests that softened couples, compared to non-softened couples, already displayed a higher proportion of disclosing and expressing statements before therapeutic intervention. However, as evidenced by their lower experiencing scale scores, these second session disclosures were lacking in emotional depth and vulnerability.

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[8] Atkins, Berns, George, Doss, Gattis, & Christensen (2005) argued that researchers who are interested in the impact of demographic variables on outcomes should theoretically examine if such demographics are related to predictors of a more interpersonal nature before studying the relation between these demographic variables and outcome in detail.

HLM

Impact of softening on relationship satisfaction. As indicated, Burgess Moser and colleagues (2012) reported that couples' self-reported relationship satisfaction demonstrated a significant increasing slope across sessions. Results of the current study indicated a significant main effect of softening on DAS intercept discontinuity, $\gamma_{200} = 2.26$, $t\,(31) = 2.63$, $p = 0.01$. That is, softened couples' relationship-satisfaction scores significantly increased by 2.26 ($SE = 0.85$) points at the softening session. Result also indicated a non-significant main effect of softening on slope discontinuity, $\gamma_{300} = -0.08$, $t\,(31) = -0.659$, $p = 0.515$. That is, the self-reported relationship satisfaction scores of softened couples continued to increase in the post-softening sessions at the same rate that they were increasing in pre-softening sessions. The discontinuity model with softening as a predictor resulted in a significantly better fit to the data, $\Delta\,\chi^2\,(16, N = 31) = 50.14$, $p < 0.001$.

In Figure 1, we plotted the significant intercept discontinuity to illustrate softened couples' estimated trajectory of change in relationship satisfaction. We also plotted non-softened couples estimated trajectory of change using the results of the unconditional linear model for relationship satisfaction. As shown, these results suggest that the occurrence of softening leads to differences in *the degree* of relationship satisfaction change displayed by softened and non-softened couples, but not *the rate* at which these couples change occur over course of therapy.

Impact of softening on relationship-specific attachment anxiety. Burgess Moser and colleagues (2012) found a significant decreasing slope for relationship-specific attachment anxiety for couples that completed a blamer-softening event, after this event occurred. For the current study, we found a significant main effect of softening on intercept discontinuity, $\gamma_{200} = 0.19$, $t\,(31) = 2.39$, $p = 0.02$. This result indicates that softened couples'

relationship-specific attachment anxiety scores significantly increased by 0.19 (*SE*=0.08) at the softening session. A significant main effect of softening on slope discontinuity, γ_{300} = -0.022, t (31) = -4.01, p <0.001, indicates that softened couples' scores on self-reported relationship-specific attachment anxiety declined at a significantly greater rate after the occurrence of a softening. This result is in comparison to the non-significant rate of change displayed by softened couples before the softening occurred, and by non-softened couples over the course of therapy (Burgess Moser et al., 2012). The discontinuity model with softening as a predictor resulted in a significantly better fit to the data, $\Delta \chi^2$ (16, N =32) = 58.99, p < 0.001.

In Figure 2, we plotted the significant intercept and slope discontinuity to illustrated softened couples' estimated trajectory of change in relationship-specific attachment anxiety. We also plotted non-softened couples estimated trajectory of change using the results of the unconditional linear model for relationship-specific attachment anxiety. As shown in Figure 2, these results suggest that the occurrence of softening leads to differences in *the degree* and *the rate* of attachment anxiety change displayed by softened and non-softened couples.

Impact of softening on relationship-specific attachment avoidance. Burgess Moser and colleagues (2012) found that couples' attachment avoidance significantly decreased over the course of therapy. Results of the current study found a significant fixed effect for the main effect of softening on intercept discontinuity, γ_{200} = -0.23, t (31) = -2.50, p = 0.02. This result indicates that softened couples' relationship-specific attachment avoidance scores significantly decreased by -0.23 (*SE*= 0.09) at the softening session. A non-significant of softening on slope discontinuity, γ_{300} = -0.0004, t (31) = 0.08, p = 0.94 indicates that after achieving a softening event, couples' self-reported relationship-specific attachment avoidance scores continue to decrease at the same rate as they were decreasing

before the occurrence of softening. The discontinuity model with softening as a predictor was a significantly better fit to the data, $\Delta \chi^2$ (16, N =32) = 42.31, $p < 0.001$.

In Figure 3, we plotted the significant intercept discontinuity to illustrated softened couples' estimated trajectory of change in relationship-specific attachment avoidance. We also plotted non-softened couples estimated trajectory of change using the results of the unconditional linear model for relationship-specific attachment avoidance. As shown in Figure 3, these results suggest that the occurrence of softening leads to differences in *the degree* of attachment avoidance change displayed by softened and non-softened couples, but not *the rate* at which these couples change occur over course of therapy.

Discussion

Blamer-Softening Event and Couple Interactions

As hypothesized, softened couples, in comparison to non-softened couples, had a significantly higher proportion of disclosing and expressing statements and a significantly lower proportion of blaming and belittling statements during their best session interactions. Softened couples, compared to non-softened couples, also demonstrated significantly higher levels of emotional experiencing in their best sessions. These results are consistent with past research (Greenberg et al., 1993; Johnson & Greenberg, 1988).

Although softened couples did display a significantly higher proportion of disclosing and expressing statements in their second session interactions, the ES results of the second session suggest that these disclosures were superficial and lacking in emotional vulnerability. Further, there were no significant differences in the proportion of blaming and belittling statements in the second session interactions of softened and non-softened couples, nor were there significant differences in their second session levels of emotional experiencing. These results suggest the positive patterns of interaction, that were hypothesized to distinguish

between softened and non-softened couples' best session interactions, did not exist in earlier in therapy.

This combination of results support the softening classification made by study coders, provided support for hypothesis 1, and allowed us link the completion of blamer-softening with therapeutic outcomes using HLM.

Impact of Softening on Relationship Satisfaction

Results of the current study demonstrated that softened couples reported a significant increase in relationship satisfaction scores at the softening session. Results also indicated that softened couples displayed the same rate of change in relationship satisfaction during the pre- and post-softening sessions. These results provide partial support for hypothesis two, since it was expected that the completion of a softening event would increase the degree *and* rate of change in relationship satisfaction.

During the blamer-softening event, partners' engage with one another with new-found levels of emotional vulnerability and responsiveness, which likely explains softened' couples elevation in relationship satisfaction scores during this key session. This is consistent with past research that demonstrated that the blamer-softening event distinguished between couples' pre-to post-therapy relationship satisfaction gains (Johnson & Greenberg, 1988). The current results add to this previous research by demonstrating that these differential pre-to post-therapy gains are partly a result of the further increases in relationship satisfaction reported by softened couples specifically in the blamer-softening session.

Contrary to our prediction though, softened couples' relationship satisfaction did not start to increase at a faster rate after they completed a softening event. The results suggest that softened couples' rate of change over the course of therapy was similar to the rate of change displayed by non-softened couples (see Figure 1). This result is consistent with

clinical processes (Johnson, 2004). Specifically, whether or not couples are able to achieve a complete softening event in therapy, they still have to struggle to replace their old, negative patterns of interaction with the new patterns of emotional engagement practiced in therapy. Further, all couples still need time to consolidate their new perceptions and experiences of their partner as a secure base in times of distress into their already established relationship-specific working models of attachment.

Changes in Relationship-Specific Attachment Anxiety

Results indicated that softened couples reported an increase in relationship-specific attachment anxiety at the softening session. Further, softened couples then reported a significant declining trajectory in relationship-specific attachment anxiety in their post softening sessions. These results are in contrast to the lack of changes reported in relationship-specific attachment anxiety by softened couples in pre-softening sessions and the lack of changes in relationship-specific attachment anxiety reported by non-softened couples over the entire course of therapy (see Figure 2). Also demonstrated in Figure 2, although softened couples' relationship-specific attachment initially increased in the softening session, at the end of therapy softened couples' relationship-specific attachment anxiety was lower than the relationship-specific attachment anxiety of non-softened couples. These results provide partial support for hypothesis two.

Individuals high in attachment anxiety fear their partner will abandon or reject them should their partner become aware of their true vulnerabilities (Mikulincer & Shaver, 2007). Accordingly, when blaming partners (thought to be high on attachment anxiety) are encouraged to approach their partner for support from a position of vulnerability during blamer-softening, they are taking a huge emotional risk (Johnson, 2004). Specifically, these individuals are exposing their vulnerabilities without being sure that their vulnerability will

be met attuned supportiveness by their partner. This threat associated with this level of emotional vulnerability may explain the increases in relationship-specific attachment anxiety reported by softened couples at the softening session.

The finding that relationship-specific attachment anxiety only changed for those couples who completed this key event, demonstrates how blaming partners' courage to risk vulnerability with their partner in this session 'pays off' in the long-term. In fact, when these individuals express their fear of abandonment and rejection in therapy and their vulnerability is met with their partners' attuned caregiving, it is likely that the blamer-softening event behaves as a corrective emotional experience for individuals with attachment anxiety. Accordingly, couples who are unable to engage in these new patterns of engagement in the blamer-softening session, do not experience this corrective emotional experience, and as a result, do not report decreased levels of relationship-specific attachment anxiety.

Changes in Relationship-Specific Attachment Avoidance

Softened couples reported a decrease in relationship-specific attachment avoidance at the softening session. Results also indicated that softened couples decreased their relationship-specific attachment avoidance at the same rate over the entire course of therapy. Again, these results suggest that it is *the degree* of changes in relationship-specific attachment avoidance that differs between softened and non-softened couples, rather than *the rate* of change in relationship-specific attachment avoidance over the course of therapy (see Figure 3). These results provide partial support for hypothesis two, since it was expected that the completion of a softening event would increase the degree *and* rate of change in relationship-specific avoidance.

Johnson and Whiffen (1999) argue that individuals high in attachment avoidance tend to withdraw from the relationship to cope with the feelings of inadequacy that arise from

their perceived inability to please their partner. During the blamer-softening event, withdrawing partners learn that they are valued and desired by their partner, and that their partner views their emotionally avoidant behaviour as a sign of rejection (Johnson, 2004). Wallin (2007) argues that in order to target attachment avoidance, therapists need to provide these individuals with feedback on how their behaviour impacts others with whom they interact. The blamer-softening event allows withdrawing partners to see how their loved one interprets their behaviour, and also allow them to see that their partners' previously blaming behaviour was their way of asking for emotional connection. Accordingly, these withdrawing individuals may also be provided with a corrective emotional experience, leading to the additional decreases in softened couples' relationship-specific attachment avoidance in the softening session.

Contrary to prediction, softened couples did not decrease their relationship-specific attachment avoidance at a faster rate after the softening session, in comparison to rate of change they displayed before softening. It is also possible that like relationship satisfaction, perhaps no matter *what degree* of change in relationship-specific attachment avoidance in relation to the blamer-softening event, the rate of change after softening remains the same.

Clinical Implications

Our study is the first to examine how the completion of a key change event in EFT is associated with couples' immediate reports of therapeutic outcomes. This novel design allowed us to discover detailed information on how couples' relationship satisfaction and relationship-specific attachment changed over the course of therapy.

First, this design illustrated that the blamer-softening event had an effect on couples' *mean scores* on relationship-specific attachment anxiety and attachment avoidance. This finding is especially interesting for EFT clinicians who typically hold that blamer-softening

is primarily a corrective emotional experience for blaming partners, or partners' who are high in attachment anxiety. This result therefore suggests that blamer-softening event also impacted withdrawing partners, or partners who are high in attachment avoidance. The impact of blamer-softening on both partners' attachment anxiety and attachment avoidance highlights the dyadic nature of couple therapy and how the effect of a couple intervention is unlikely to be isolated to one partners' outcomes.

Second, understanding the impact of blamer-softening on attachment outcomes provides information to others attachment-based therapists interested in facilitating increases in partners' relationship-specific attachment security over the course of therapy. Specifically, the enactments facilitated during the blamer-softening event could be used as an example of the type of interventions that is needed to modify insecure models of attachment (Johnson & Whiffen, 1999; Pietromonaco et al., 2002).

Conclusion

Burgess Moser and colleagues (2012) were the first researchers to demonstrate significant decreases in relationship-specific attachment anxiety and avoidance over the course of EFT. The results of the current study demonstrated that the completion of the blamer-softening event was likely responsible for facilitating these decreases in couples' relationship-specific attachment insecurity. The combination of findings from these two studies do provide a strong argument that it is the process of change in EFT, especially the blamer-softening event, that is facilitating decreases in relationship-specific attachment insecurity, rather than events occurring outside of therapy or the natural shifts occurring in attachment insecurity over time (Mikulincer & Shaver, 2007). These studies support the addition of EFT to the growing list of attachment-based clinical interventions aimed at

helping individuals to be ‘seen’ in the mind of the ones they love, allowing them to reap the considerable mental and physical health benefits associated with more secure attachment.

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Article 2- Appendix A: Select Multilevel Models

Model A: Unconditional Linear Models for Main Outcome Variables

Level-1 Model: $Y_{tij} = \pi_{0ij} + \pi_{1ij}*(time_{tij}) + e_{tij}$

Level-2 Model: $\pi_{0ij} = \beta_{00j} + \beta_{01j}*(individual\_prescore_{ij}) + r_{0ij}$

$\pi_{1ij} = \beta_{10j} + \beta_{11j}*(individual\_prescore_{ij})$

Level-3 Model: $\beta_{00j} = \gamma_{000} + \gamma_{001}(couple\_prescore_{j}) + u_{00j}$

$\beta_{01j} = \gamma_{010}$

$\beta_{10j} = \gamma_{100} + \gamma_{101}(couple\_prescore_{j}) + u_{10j}$

$\beta_{11j} = \gamma_{110} + u_{11j}$

π_{0ij} = initial status for the individual (intercept); β_{00j} = couple's initial status on the dependent variable; γ_{000} = all couples' mean initial status; π_{1ij} ($time_{tij}$) = the linear rate of change for the individual across each session (slope); β_{10j} = average linear rate of change for the couple; γ_{100} = mean linear rate of change of all couples; $e_{tij,}$ r_{0ij}, $u_{00j,}$ u_{10j} = the residuals.

Model B: Model for Intercept and Slope Discontinuity Outcomes

Level-1 Model: $Y_{tij} = \pi_{0ij} + \pi_{1ij}*(time_{tij}) + \pi_{2ij}*(Soft\_Intercept_{tij}) + \pi_{3ij}*(Soft\_Slope_{tij}) + e_{tij}$

Level-2 Model: $\pi_{0ij} = \beta_{00j} + \beta_{01j}*(individual\_prescores_{ij}) + r_{0ij}$

$\pi_{1ij} = \beta_{10j} + \beta_{11j}*(individual\_prescores_{ij})$

$\pi_{2ij} = \beta_{20j} + r_{2ij}$

$\pi_{3ij} = \beta_{30j} + r_{3ij}$

Level-3 Model: $\beta_{00j} = \gamma_{000} + \gamma_{001}(couple\_prescores_{j}) + u_{00j}$

$\beta_{01j} = \gamma_{010}$

$\beta_{10j} = \gamma_{100} + \gamma_{101}(couple\_prescores_{j}) + u_{10j}$

$\beta_{11j} = \gamma_{110} + u_{11j}$

$\beta_{20j} = \gamma_{200} + u_{20j}$

$\beta_{30j} = \gamma_{300} + u_{30j}$

Level 1: π_{2ij} (SoftBwtz) = effect of blamer-softening on intercept; π_{3ij} (SlopeSoft) = effect of blamer-softening on slope; and e_{tij} = residual, γ_{100} = all couples average rate of change when controlling for the occurrence of softening and post-softening scores; u_{10j} = residual; γ_{200} = the grand mean of the effect of the blamer-softening on the intercept; u_{20j} =the residual; γ_{300} = the grand mean of the effect of blamer-softening on slope, u_{30j} = the residual.

Table 1

Proportions of SASB Responses and Depth of Emotional Experiencing in Second and Best Session by Softening Status

	Second Session			Best Session		
SASB	No Softening (% SASB statements within NS group)	Softening (% SASB statements within S group)	p	No Softening (% SASB statements within NS group)	Softening (% SASB statements within S group)	p
Disclose Express						
Present	17 (25%)	51 (75%)	<0.001	118 (42%)	158 (58%)	0.01
Absent	216 (51%)	204 (49%)		115 (54%)	97 (46%)	
Belittling Blaming						
Present	68 (54%)	59 (47%)	0.12	25 (89%)	3 (11%)	<0.001
Absent	165 (46%)	196 (54%)		208 (45%)	252 (55%)	
ES Mode	2.40 (0.42)	2.50 (0.60)	0.35	3.14 (0.49)	4.15 (0.77)	<0.001
ES Peak	3.20 (0.45)	3.50 (0.71)	0.05	4.03 (0.68)	5.40 (0.67)	<0.001

Note: For the SASB (Structural Analysis of Social Behaviour), Disclose and Express (2-2), Belittling and Blaming (1-6); For the ES (Experiencing Scale), higher scores indicated higher levels of emotional experiencing (Range 1-7) n= 16 couples in each the softening and non-softening groups; n = 976 statements analyzed in total (488 in second session and 488 in best sessions).

Table 2

Effects and Variance Components for Softening Intercept and Slope Discontinuity Variables

	Coefficient	*SE*	*t*	*p*	σ^2
Hypothesis 2: Relationship Satisfaction					
Intercept Discontinuity γ_{200}	2.26	0.85	2.63	0.01	8.15
Slope Discontinuity, γ_{300}	-0.08	0.12	-0.66	0.52	0.32
Hypothesis 3: Relationship-Specific Attachment Anxiety					
Intercept Discontinuity γ_{200}	0.19	0.08	2.39	0.02	0.18
Slope Discontinuity, γ_{300}	-0.02	0.01	-4.01	<0.001	0.01
Hypothesis 4: Relationship-Specific Attachment Avoidance					
Intercept Discontinuity γ_{200}	-0.23	0.09	-2.50	0.02	0.09
Slope Discontinuity, γ_{300}	0.001	0.01	0.08	0.94	0.0004

Note. N = 32 couples. Degrees of freedom for t-test = 31. σ^2 = the between-couple variance for each HLM model.

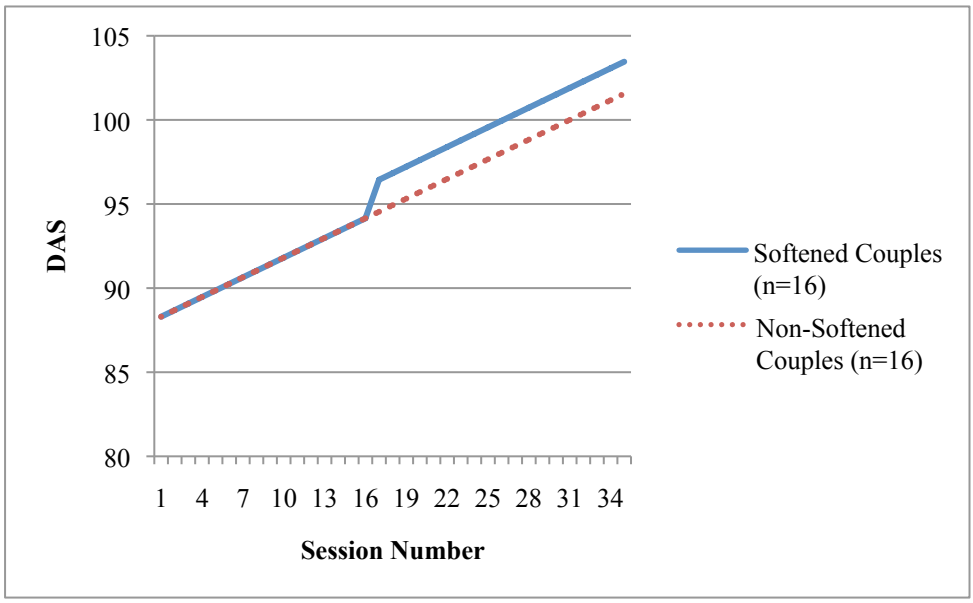

Figure 1. Modeled Intercept and Slope Discontinuity in Changes in Relationship Satisfaction. The solid line represents the trajectory of scores for softened couples. The dashed line represents the trajectory of scores of non-softened couples.

Note: For those couples that achieved a softening event, it occurred at different time points in therapy, but each couples' data were centered at their softening session. For illustrative purposes, we chose session 18 as the average timing of softening.

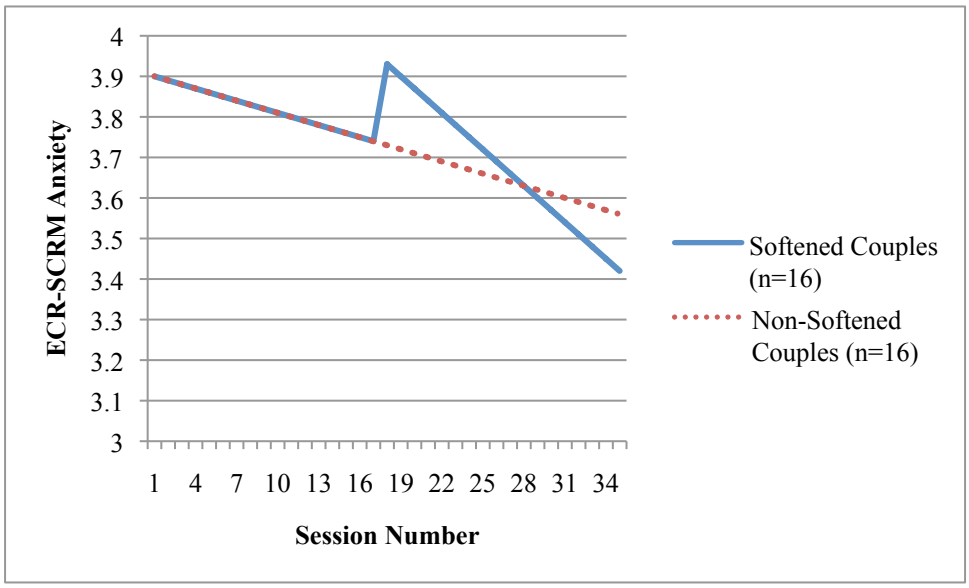

Figure 2. Modeled Intercept and Slope Discontinuity in Relationship-Specific Attachment Anxiety. The solid line represents the trajectory of scores for softened couples. The dashed line represents the trajectory of scores of non-softened couples.

Note: For those couples that achieved a softening event, it occurred at different time points in therapy, but each couple's data was centred at their softening session. For illustrative purposes, we chose session 18 as the average timing of softening.

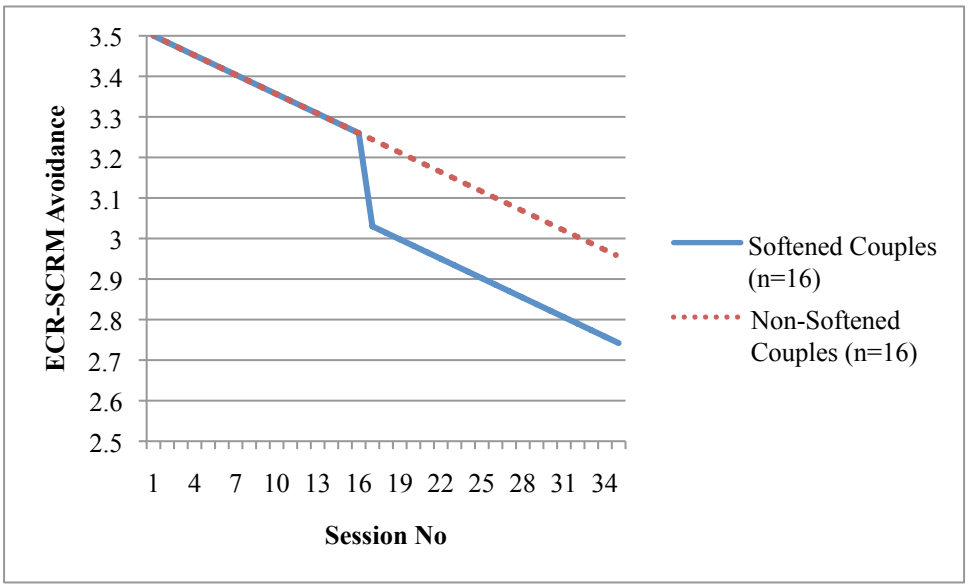

Figure 3. Modeled Intercept and Slope Discontinuity in Relationship-Specific Attachment Avoidance. The solid line represents the trajectory of scores for softened couples. The dashed line represents the trajectory of scores of non-softened couples.

Note: For those couples that achieved a softening event, it occurred at different time points in therapy, but each couple's data was centred at their softening session. For illustrative purposes, we chose session 18 as the average timing of softening.

General Discussion

The theoretical basis of Emotionally Focused Couple Therapy (EFT; Johnson, 2004) assumes that in changing couples' negative interaction cycles, it also facilitates increases in partners' relationship-specific models of attachment security (Johnson & Whiffen, 1999). Although previous EFT outcome research had demonstrated increases in couples' levels of relationship satisfaction, intimacy, trust and forgiveness from pre-to post-therapy (Denton et al., 2000; Johnson & Greenberg, 1985; Makinen & Johnson, 2006), it had yet to demonstrate significant increases in partners' attachment security over the course of therapy. Further, all previous EFT outcome research had examined changes in key outcomes only at pre-post and follow-up time points, making it unclear how couples' changed over the course of therapy. Accordingly, the goals of this dissertation were to examine if and how the process of change in EFT impacts couples' relationship-specific models of attachment security, and to examine the impact of these changes on couples' self-reported relationship satisfaction gains.

Summary of Key Findings

I used Hierarchical Linear Modelling (HLM; Singer & Willet, 2003) for nested longitudinal designs to examine the pattern of change in couples' self-reported relationship satisfaction and relationship-specific attachment over the course of therapy. The sample consisted of 32 heterosexual couples that completed an average of 21 sessions of EFT. Using the Reliable Change Index (Jacobson & Traux, 1991), results indicated that 65% of couples reported clinically significant recovery or improvement in relationship satisfaction following therapy. Similarly, HLM analysis revealed a significant linear increase in couples' relationship satisfaction scores over the course of therapy.

To test the attachment-based assumptions of EFT, I examined a series of several related hypotheses. First, I employed HLM to examine pre- and post-therapy differences in

couples' unconsciously expressed attachment-based behaviour using the Secure Base Scoring System (SBSS; Crowell et al., 2002). Results indicated that couples' secure base use and secure base support behaviour demonstrated significant increases towards security from pre-to post-therapy. Second, I examined session-by-session changes in partners' self-reported, consciously expressed, relationship-specific attachment avoidance and attachment anxiety using the ECR-SCRM. Results indicated that couples' relationship-specific attachment avoidance demonstrated a significant decrease over the course of therapy and that a subset of our couples, i.e., those that completed the blamer-softening change event, demonstrated significant decreases in their relationship-specific attachment anxiety in their post-softening sessions.

Given that the SBSS is thought to assess unconscious aspects of partners' relationship-specific attachment behaviour (Crowell et al., 2002) and the ECR-SCRM is thought to assess conscious aspects of relationship-specific attachment (Shaver & Mikulincer, 2002), these results suggested that the process of change in EFT is altering both *unconscious and conscious* models of relationship-specific attachment. Research has suggested that attachment classifications made by self-report measures may be more influenced by shifts in partners' day to day interactions patterns than those classifications made by interview or behavioural measures of attachment (Davila & Cobb, 2003; Feeney, 2002). Thus, finding increases in attachment security on both a self-report and a behavioural measure of attachment over the course of therapy, supports the validity of our attachment outcomes.

I conducted a co-variation analysis to determine whether changes in couples' self-reported relationship-specific attachment had an impact on their relationship satisfaction over the course of therapy. Results suggested that significant decreases in relationship-specific

attachment anxiety led to significant increases in relationship satisfaction over the course of therapy. However, significant changes in relationship-specific attachment avoidance were not significantly associated with changes in relationship satisfaction (it is plausible that this latter finding was due to low statistical power). These results provide support for targeting attachment-based affect and behaviour in therapy, in order increase couples' relationship functioning.

I also employed an HLM intercept and slope discontinuity analysis (Singer & Willet, 2003) in order to determine the exact role of blamer-softening in facilitating decreases in softened couples' (n=16) relationship-specific attachment anxiety, and its impact on softened couples' relationship-specific attachment avoidance and relationship satisfaction. Results indicated that softened couples' relationship-specific attachment anxiety demonstrated an immediate increase at the blamer-softening session, before displaying significant decreases in the post-softening sessions. Results also indicated that softened couples' relationship-specific attachment avoidance displayed an immediate decrease and softened couples' relationship satisfaction scores demonstrated an immediate increase at the blamer-softening session.

I used the results of the discontinuity analyses to compare softened (n=16) and non-softened couples' (n=16) trajectory of change in relationship satisfaction and relationship-specific attachment over the course of therapy. Results demonstrated that the blamer-softening event distinguished between the degree and rate of change in couples' relationship-specific attachment anxiety (see Article 2: Figure 2). These comparisons also illustrated that the blamer-softening event was related to the degree, but not the rate, of change in couples' relationship-specific attachment avoidance and relationship satisfaction (see Article 2, Figures 1 & 3). These results demonstrate the significant role played by the blamer-softening

change event in facilitating positive changes in couples' relationship satisfaction, relationship-specific attachment avoidance, and attachment anxiety over the course of EFT.

I conducted additional analyses to examine session-by-session changes in partner trust and dyadic emotional control. Results indicated that couples reported significant linear increases in their levels of partner trust and significant linear decreases in their dyadic emotional control over the course of therapy. Results also indicated that these significant increases in partner trust were related to significant increases in relationship satisfaction over the course of therapy. Research has demonstrated that higher degrees of attachment security are associated with higher levels of relationship trust and a greater likelihood to experience and disclose vulnerable feelings to loved ones (Crowell et al., 2002; Mikulincer & Shaver, 2003; 2007). These additional analyses support the claim that EFT is targeting key areas of relationship-specific attachment functioning and that targeting these areas of attachment functioning led to increased relationship satisfaction between partners.

The results of this study provided support for the assumption that the process of change in EFT facilitates increases in the level of security in couples' relationship-specific models of attachment and also provide support for the use of attachment theory to understand and treat relationship distress. Results of the current study also provided a detailed explanation of *how* the process of change in EFT impacts couples' relationship-specific models of attachment security over the course of therapy. These results are rich in their clinical and research implications.

Clinical Implications

The increased relationship satisfaction reported by softened couples at the softening session supports the clinical understanding of the blamer-softening session as a powerful bonding experience between partners (Johnson, 2004; Johnson & Greenberg, 1988). The

finding that softened couples' relationship-specific attachment anxiety increases during the softening session is also consistent with clinical expertise. Johnson (2004) highlights that the blamer-softening session is a huge risk for the blaming partner and therefore stresses the importance of validating and supporting their emotional vulnerability during this key change event. This finding reinforces the idea that couples may be feeling fearful after exposing their emotional vulnerability to their partner during this key session and clinicians should continue to respond to this vulnerability with emotional support and validation.

The finding that relationship-specific attachment avoidance decreased from the beginning of therapy and decreased even further during the blamer-softening session suggests that different components of attachment avoidance may be targeted at different points in therapy. Given that couples' attachment avoidance and dyadic emotional control both demonstrated a linear decline from the beginning of therapy, it is plausible that the deactivation strategies associated with attachment avoidance are being targeted early in therapy. However, withdrawing partners' (typically high on attachment avoidance) view of themselves as respected and valued might not shift until their blaming partner discloses their vulnerable desire for connection with them at the blamer-softening session.

Finally, the differential pattern of change in couples' relationship-specific attachment anxiety and attachment avoidance found in the current study illustrates how different forms of attachment insecurity are targeted at different points in therapy. These results are consistent with other attachment–based therapies that recommend specific interventions to target the different unmet attachment needs of those individuals with attachment anxiety or avoidance (Wallin, 2007; Tasca et al., 2011).

Future Research

Future research could be conducted to determine how the process of change in EFT facilitated the early decreases found in partners' relationship-specific attachment avoidance and dyadic emotional control over the course of therapy. Given that withdrawer-re-engagement occurs early in therapy it is plausible that the completion of this key change event plays a role in these outcomes. This investigation could be conducted using a HLM intercept and discontinuity analysis with respect to withdrawer-re-engagement and couples' immediate outcomes in their relationship-specific attachment avoidance and dyadic emotional control. This type of analysis would provide an even clearer picture of how the process of change in EFT impacts couples' attachment functioning.

Another potential area of future research could be to examine the pattern of change in couples' relationship-specific attachment from study termination to follow-up by their softening status. Specifically, the completion of the blamer-softening change event was significantly associated with the degree of change in couples' key outcomes over the course of therapy. Since these couples experienced the benefits of risking a new pattern of engagement with their partner in the softening session, it is plausible that their softening status could have an impact on their ability to maintain, or demonstrate even further increases their relationship satisfaction or their relationship-specific attachment insecurity over time. Although previous studies have examined the impact of attachment injury resolution on relationship satisfaction, trust and forgiveness scores at follow-up (Halchuck et al., 2010), no previous study has examined the impact of blamer-softening on couples' ability to maintain gains after therapy termination. A follow-up study with this sample of couples is currently being conducted to answer these key questions.

Study Limitations

The results of the current study are mainly limited to Caucasian, English speaking, upper-middle class, heterosexual couples. Further studies would help us to determine whether EFT facilitates increased relationship-specific attachment security with more culturally diverse samples. Another limitation of this study is its relatively small sample size. Although a-prior power analyses suggested that a sample of 32 couples was sufficient to test our hypotheses, power analyses using HLM is relatively new, and our results indicated that a significant association between changes in relationship-specific attachment avoidance and relationship satisfaction may not have been detected due to low power.

Another limitation of the current study is it sole focus on one empirically supported couple intervention. Although EFT is the only empirically supported couple therapy that specifically conceptualizes and intervenes with relationship distress using attachment theory and attachment–based interventions, it is plausible that other types of empirically validated couple therapies could have also demonstrated a similar impact on relationship-specific attachment orientations over the course of therapy. For example, Integrative Behavioural Therapy Couple Therapy (Jacobson & Christensen, 1998) has incorporated a focus on emotional hurts and struggles as barriers to effective communication and problem solving. This therapeutic focus may also target partners' attachment orientations. A study comparing these two approaches would help to determine whether changes in relationship-specific attachment security are solely attributable to the process of change in EFT, or whether other empirically supported interventions for marital distress would result in similar findings.

Conclusions

The results of this study contribute to a better understanding of Emotionally Focused Couples Therapy outcomes and the process of change within this approach. First, the

findings support previous research by demonstrating significantly linear increases in relationship satisfaction and relationship trust over the course of therapy. Second, current results extended previous research by being the first to demonstrate significantly linear decreases in emotional control, and significant linear decreases in relationship-specific attachment anxiety and avoidance over the course of therapy. The current study also extends previous EFT research by demonstrating significant post-therapy increases in the security of couples' relationship-specific attachment behaviour. Third, this study further delineated the role of blamer-softening in positive EFT outcomes. Specifically, results demonstrated significant positive shifts in couples' relationship satisfaction and relationship-specific attachment insecurity at the softening session and/or in post-softening sessions.

Results of this current study also contribute to the field of couple therapy. Specifically, our results highlight the potential benefits of conceptualizing relationship distress from an attachment perspective, and also of targeting couples' attachment-based affect and interactions to increase their relationship functioning. These results also have implications for addressing individuals' interpersonal difficulties in individual and group therapy. Knowing the impact of the interventions such as blamer- softening can have on relationship-specific attachment anxiety, especially, supports therapeutic focus on attachment-based corrective emotional experiences to target interpersonal change.

Finally, the results of this study contribute to the attachment theory literature. Previous research is limited on how attachment orientations and behaviour change over the course of therapeutic interventions, and the research that existed had yet to tie attachment outcomes with the completion of key therapeutic events (Mikulincer & Shaver, 2007). The results of the current study provide further evidence that individuals' models of attachment can shift towards security when they are provided with a secure base from which to explore

and disclose their attachment needs, particularly when these needs are addressed by close others with emotional sensitivity and responsiveness.

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Appendix A: Additional Analyses

Although previous EFT outcome research has demonstrated pre-to pre-therapy increases in trust and emotional intimacy (Johnson & Talitman, 1996; Makinen & Johnson, 2006), the pattern of change in these variables over the course of therapy had not been previously investigated. Accordingly, we used HLM to investigate session-by-session changes in trust and dyadic emotional control over the course of therapy. We also conducted two separate co-variation analysis to examine whether changes in these variables contributed to increased relationship satisfaction over time.

Specific hypotheses included:

Hypothesis 1: Couples will report a significantly linear increase in trust over the course of therapy. Additionally, couples will report a significantly linear decreases in emotional control over the course of therapy.

Hypothesis 2: Changes in couples' self-reported levels of trust and emotional control will significantly co-vary with changes in self-reported relationship satisfaction over the course of therapy. Increases in trust and decreases in dyadic emotional control will be related to increases in relationship satisfaction.

Participants/Procedure

The couples in the current analysis are those couples described in Article 1 and 2, and thus followed the same assessment and therapy procedures. In addition to completing the measures described in Article 1, these couples also completed the Relationship Trust Scale (Holmes, Boon & Adams, 1990) and the Courtauld Emotional Control Scale-Revised (CECS-R: Feeney, 1995).

Measures

The Relationship Trust Scale. The Relationship Trust Scale (RTS; Holmes, Boon & Adams, 1990) contains 30 items that are scored on a 7-item Likert scale (i.e., 1= Strongly Disagree to 7 = Strongly Agree). These items are summed into five subscales and a total trust scale; where higher scores are indicative of higher trust levels. Only the total scale score was used for the current study and its possible range is 30-210. High levels of internal consistency have been found the total scale (30 items, ∝ = 0.89; Holmes et al., 1990). The total scale internal consistency ratings during the pre- and post-therapy and session assessment were moderate to high (30 items, ∝ = 0.68-0.96). No normative or stability scores are available in the literature for this measure.

The Courtauld Emotional Control Scale-Revised. The Courtauld Emotional Control Scale Revised (CECR; Feeney, 1995) is an adapted measure of emotional control originally developed by Watson & Greer (1983) that assesses an individual's general tendency to suppress the expression of emotion. Feeney's (1995) revised version has partners respond to question in relation to their interactions with their current romantic partner. Both scales have 21 items that are summed into a total emotional control scale or three subscales, however; only the total scale was used in the current study. This scale contains 21 items which are scored on a 6 point Likert scale from (1) Hardly Ever) to (6) Almost Always; the possible range for the total scale is 21 to 126. The only norms available for this measure are reported by attachment orientations. Feeney (1995) reported a mean total CECS-R score of 46.37 for couples with two securely attached partners, and a mean total score of 61.90 for couples with two insecurely attached partners; however, the SD of these means were not reported.

Watson & Greer (1983) reported that the test-retest correlations over a 3 week period for the three subscales and the total scale to range between r = 0.86-0.95. The internal consistency ratings during the pre- and post-therapy and over the course of all sessions was (21 items, ∝ = 0.94-0.99).

Statistical Analysis

To test Hypotheses 1, we ran a series of intercept only and unconditional linear models with time (session) as a predictor and trust and dyadic emotional control as the dependent variables (Appendix A of Article 1: Model A). To test Hypotheses 2, we ran two separate time varying co-variate models with changes in trust and emotional control as time-varying predictors with relationship satisfaction as the dependent variable (Appendix A of Article 1: Model B)[9]. For the unconditional linear models, we entered individuals' and couples' pre-scores on the dependent variables at Level 2 and 3 respectively to control for their impact on estimates of change. Further, we centred our time variable, so time 0 referred to couples' pre-therapy assessment scores. Full maximum likelihood estimation was used for all HLM analyses.

Preliminary Analysis

Couples' pre-post therapy means on the RTS and the CECS-R are reported in Table 1. Since this was the first time that HLM was used to examine session-by-session changes in these variables, linear and quadratic time variables were examined as predictors of change.

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[9] The trust and relationship satisfaction analysis ran out of degrees of freedom to estimate our parameter effects when tested as outlined in Model B. Accordingly, we fixed the variance components of slope, u_{10j}, and of the pre-das control variable for the slope, u_{11j}. This conditional model was compared with its nested unconditional linear model (Model A with the same fixed variance components). Singer & Willet (2003) recommend strategically fixing variance components in order to allow for full estimation of effects since there are limited degrees of freedom available within multi-level modelling.

The deviance statistics indicated that the linear models were a significantly better fit to the data for change in trust and dyadic emotional control ($p \leq 0.005$).

Main Outcomes

Relationship satisfaction. As previously reported in Article 1, the unconditional linear model for relationship satisfaction demonstrated a significant slope across each sessions, $\gamma_{100} = 0.39$, $t\ (30) = 6.36$, $p < 0.001$ (See Model A). This suggests that couples were reporting significant improvements in their relationship satisfaction at a rate of 0.39 per weekly session. The pseudo R^2 suggests that the linear parameter explained 31% of the within person variance in relationship satisfaction scores over time, which represents a large effect size (Cohen, 1988), and the unconditional linear model was a significantly better fit to the data than the intercept only model, $\chi^2(10) = 531.13$, $p < .001$.

Trust. The unconditional linear model for trust demonstrated a significant slope over the course of therapy, $\gamma_{100} = 0.36$, $t\ (30) = 5.23$, $p < 0.001$ (Model A). This indicates that couples were reported significant increases in their trust at a rate of 0.36 per weekly session. The pseudo R^2 suggests that the linear time parameter explained 24% of the within person variance in trust scores over time, which represents a medium effect size (Cohen, 1988). The unconditional model was a significantly better fit to the data than the intercept only model, $\chi^2(10) = 394.34$, $p < 0.001$.

Dyadic emotional control. The unconditional linear model for dyadic emotional control also demonstrated a significant slope over the course of therapy, $\gamma_{100} = -0.29$, $t\ (30) = -3.68$, $p < 0.001$ (See Model A). This indicates that couples were reported significant decreases in their dyadic emotional control at a rate of -0.29 per weekly session. The pseudo R^2 suggests that the linear time parameter explained 25% of the within person variance in dyadic emotional control scores over time, which represents a large effect size (See Model

A). The unconditional model was a significantly better fit to the data than the intercept only model, $\chi^2(10) = 344.16$, $p < 0.001$.

Trust and relationship satisfaction. The data showed a significant effect of trust for the intercept, $\gamma_{200} = 0.38$ t (31)= 10.78, $p < 0.001$, indicating that higher scores in trust were significantly associated with higher scores in relationship satisfaction at pre-therapy (see Table 2). The data also showed a significant effect for time varying effect of trust, $\gamma_{300} = 0.004$, t (31) = 2.23, $p < 0.05$, indicating that the direct relationship between trust and relationship satisfaction found at pre-therapy increased on a session-by-session basis (see Table 2). Further, adding the time varying co-variate significantly improved model fit, $\chi 2$ (7) = 54.61, $p < 0.001$.

Dyadic emotional control and relationship satisfaction. The data illustrated a significant effect of dyadic emotional control for the intercept, $\gamma_{200} = -0.12$, t (31) = -3.86, $p < 0.001$, indicating that higher scores in emotional control were significantly associated with lower scores in relationship satisfaction at pre-therapy (see Table 2). The data also showed a non-significant effect for the dyadic emotional control time varying co-variate, $\gamma_{300} = -0.002$, t (31) = -1.03, $p = 0.312$. These results do not support our hypothesis that decreases in emotional control would be associated with increases in relationship satisfaction (see Table 2). However, the time varying co-variate model was a significantly better fit to the data, $\chi 2$ (9) = 32.53, $p < 0.001$.

In summary, Hypothesis 1 was supported—couples demonstrated a significant linear increase in trust and a significant linear decrease in emotional control over the course of therapy. Hypothesis 2 was partially supported; the co-variation analyses demonstrated that couples' increases in trust were significantly associated with increases in relationship

satisfaction; however, couples' reported decreases in dyadic emotional control were not significantly associated with changes in relationship satisfaction.

Impact of EFT on Trust and Emotional Control

Couples reported significant session by session increases in their level of partner trust over the course of therapy. These results suggest that as therapy progressed partners' perceived one another to be more dependable and more emotionally responsive. Results also demonstrated significant linear decreases in couples' level of emotional control over the course of therapy. These findings suggest that couples gradually started being more comfortable disclosing feelings of anxiety, sadness, and even anger with their partner as they participated in EFT sessions.

These findings are consistent with previous EFT research (Makinen & Johnson, 2006; Talitman, 1996) that demonstrated pre- to post-therapy increases in trust and emotional intimacy over the course of therapy. These results are also consistent with the process of change in EFT. Specifically, EFT therapists encourage couples to experientially identify and express the feelings associated with their unmet attachment needs. Partners are also encouraged to be more responsive and supportive of one another's bids for emotional connection and support. Accordingly, couples' engagement in these new forms of interaction would account for their reported increases in trust and their reported decreases in emotional control over the course of therapy.

Contribution of Trust and Emotional Control on Relationship Satisfaction Growth

Increases in trust were significantly associated with increases in relationship satisfaction over the course of therapy. These results suggest that once individuals' start to believe that their romantic partner will consistently respond to their emotional needs in times of distress, they will also report increases in relationship satisfaction. These findings are

consistent with couple therapy research (Gottman, 2011; Johnson, 2004) and attachment theory (Mikulincer & Shaver, 2007).

Contrary to our hypotheses, decreases in dyadic emotional control were not significantly associated with relationship satisfaction growth. This result might be best explained by the limited nature of our emotional control measure. Successful couple therapy outcomes are related to shifts in partner's perceptions of availability and responsiveness in times of need (Gottman, 2011; Johnson, 2004). Thus, changes in partners' ability to reflect, interpret and respond to one another's emotional disclosures are more likely to be indicative of shifts in relationship satisfaction, than solely their willingness to disclose negative affect.

Conclusions

These results add to previous EFT research by demonstrating the linear change of these variables over the course of therapy and by illustrating the importance of trust to relationship satisfaction outcomes. Further, as indicated in the overall discussion, these results support the findings of Article 1, which demonstrated significant decreases in attachment insecurity over the course of therapy.

Table 1

Pre- and Post -Therapy RTS and CECS-R Couple Means

	Pre-Therapy *(SD)*	Post- Therapy *(SD)*
RTS Total Scale	128.4 (18.0)	137.04 (22.5)
CECS-R Total Scale	70.2 (14.6)	64.6 (12.6)

Note: RTS (Relationship Trust Scale), CECS-R (Courtauld Emotional Control Scale – Revised), Pre-Therapy $n = 32$, Post-Therapy $n = 31$

Table 2

Effects and Variance Components for Predictor Variables for Co-Variate Analyses

	Coefficient	*SE*	*t*	*p*	σ^2
Emotional Control					
Intercept, γ_{200} (Dyadic emotional control)	-0.12	0.03	-3.86	<0.001	0.013
Slope, γ_{300} (Dyadic emotional control x Time)	-0.002	0.002	-1.03	0.312	0.0001
Trust					
Intercept, γ_{200} (Trust)	0.38	0.38	10.78	<0.001	0.011
Slope, γ_{300} (Trust x Time)	0.004	0.003	2.23	0.029	0.000

Note. n = 32 couples. Degrees of freedom for t-test = 31, σ^2 = the between-couple variance.