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**Appendices A-D
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**WORKING MODELS OF ATTACHMENT:
THE IMPACT OF EMOTIONALLY FOCUSED MARITAL THERAPY**

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Thesis submitted to the School of Graduate Studies and Research
of the University of Ottawa
in partial fulfilment of the requirements
for the degree of Doctor of Philosophy
(Clinical Psychology)



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**This thesis is dedicated to
my husband, John, who has been my constant support throughout this process
and continues to be my secure base**

and

**my children, Michael, Andrew, and Peter, who have grown up
during this journey, and continue to delight.**

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Abstract

Couples in which at least one partner was rated as insecurely attached were randomly assigned to an Emotionally Focused Therapy (EFT) treatment group or a waitlist control group to determine whether EFT could improve attachment working models of self and other. Fifteen couples received a minimum of 15 sessions of EFT. Eleven couples served as the control group. Assessment of the EFT group took place at recruitment, at the end of therapy, and four months later. The control group was assessed at recruitment, and 4 and 8 months later. Measures included two self-report measures of Bartholomew's four category model of attachment and a measure of marital satisfaction. Results indicated that at the end of therapy the EFT group showed significantly greater improvement in model of self, and in 3 of the 4 attachment prototypes for one attachment measure and in 2 of the 4 for the second measure of attachment. Gains were not maintained at 4-month follow-up. Changes in marital satisfaction did not differ significantly between groups from either pre- to posttreatment or from pretreatment to follow-up. For the EFT group as a whole, gains in marital satisfaction from pre- to posttreatment were predicted by increases in models of self and other scores, and improvement in secure and avoidant-fearful ratings of attachment. Gender differences were found for the treatment group. Increases in DAS scores for females in the treatment group were predicted by increases in model of self scores and in secure ratings. For males in the treatment group, improvement in DAS scores was predicted by an increase in model of other scores, and by improvement in secure and avoidant-fearful ratings.

Introduction

This study was designed to determine whether a treatment program of Emotionally Focused Therapy (EFT; Greenberg & Johnson, 1986) for couples could produce a positive change in attachment working models of self and other. The rationale for this study comes from the pairing of two core notions in psychology and psychiatry with a theoretically consistent approach to couples therapy. One notion is that early life experiences have an impact on later functioning. The other is that current interpersonal experiences are seen to affect an individual's well-being. Attachment theory, as it has evolved, is concerned with both of the above considerations (Bowlby, 1969, 1973; Bretherton, 1987), as will be developed below. EFT is a therapy whose theoretical framework depends upon attachment theory and constructs. The process of the therapy is to focus on emotional responses and rigid, self-reinforcing, negative interaction patterns. The goal is to change these patterns and build secure emotional bonds (Johnson, 1998) through accessing the attachment fears and distress which underlie the patterns of destructive behaviour.

The review that is presented next provides a history of attachment theory, then develops the thinking related to the basic structure of attachment functioning, the working model. Attachment as a construct applied to adulthood is outlined, with sections describing the measurement of adult attachment, the dimensions proposed to underlie attachment patterns, and research investigating the correlates of adult attachment. Next, a summary of EFT theory and process is provided. Finally, the rationale for the present study is presented, and the hypotheses are stated.

History of Attachment

Attachment theory, a theory of “close affectional bonds”, has evolved out of the thinking and writings of the British psychiatrist John Bowlby, who worked with young children in post World War II Britain (Bowlby, 1969/1982, 1973). He observed in his work in hospitals and orphanages that children showed extreme distress when separated from their parents, particularly the mother, but eventually moved from protesting the separation to withdrawing into a passive sadness. If they were reunited at this time they appeared very anxious and needing attention and affection. Those left without their parents resumed normal activities, appearing to have recovered from the parental loss. However, if then reunited, they showed a cool avoidance, or detachment. This detachment was seen to be an active process, and in fact, if they rejoined their caregiver, over time they became anxious and clingy. Bowlby was struck by the predictability of these stages, and from this and other observations came to ask, “how do we understand the origin and nature of the *extraordinarily strong tie* [italics added] between child and mother?” (Bowlby, 1988a, p.2). Moving away from psychoanalytic concepts to an ethological approach, Bowlby concluded that emotional attachment to a primary figure was necessary for human survival. According to Bowlby (1973, 1980) an attachment system has evolved in humans to maintain closeness and communication between an infant and the caregiver, particularly in times of threat. When the infant is hurt, ill, afraid, or tired the attachment system will become activated, and the child will perform attachment behaviours such as crying or clinging to obtain contact with the caregiver. The goal of the infant is to obtain a sense of “felt security” (Sroufe & Waters, 1977).

Most of the structured research investigating attachment theory has stemmed from Ainsworth's extensive observation of mother-infant interactions, particularly during the first year of the infant's life. After working as a member of Bowlby's research team, Ainsworth began to develop a set of empirical measures to study the attachment processes of infants. Beginning with 28 mother-infant dyads in Uganda (Ainsworth, 1963; 1967), and continuing with extensive longitudinal research in Baltimore from 1963 to the mid 1970s (summarized in Ainsworth, Blehar, Waters, & Wall, 1978), Ainsworth attempted to formulate specific patterns of interaction between an infant and its mother. Based in large part on observations of how an infant responds to separation from and reunion with the mother, she proposed that there are three basic patterns of attachment which can exist: secure, insecure-avoidant, and insecure-resistant. Ainsworth and her colleagues created a widely-used paradigm, the Strange Situation, (Ainsworth et al., 1978) in order to assess the infant-mother attachment, using the secure and insecure categories of attachment. A major contribution of Ainsworth to attachment theory was the large body of research connecting infant attachment behaviours to the caregiving environment, particularly the sensitive responsiveness of the attachment figure (e.g., Ainsworth et al., 1978). A number of attachment theorists have suggested that attachment patterns formed in the first year of life play a significant part in personality development (e.g., Ainsworth, 1963; Bowlby, 1973; Main, Kaplan, & Cassidy, 1985), and thus have lasting effects on individuals. Considerable longitudinal research has been carried out following children who were initially assessed on their infant attachment patterns with the Strange Situation (e.g., Egeland & Farber, 1987; Matas, Arend, & Sroufe, 1978; Sroufe, Egeland, & Kreutzer,

1990).

Although Bowlby's original concern was with the mother-infant connection, as his thinking progressed he came to believe that these early relational experiences influenced people throughout their lives, particularly with respect to their later relationship functioning. Furthermore, he maintained that the need to form these attachments, strong affectional bonds, was lifelong. As Bartholomew (1993) stated, "The theory leads to two bold hypotheses: (a) Attachment behavior characterizes human beings throughout life and (b) patterns established in childhood parent-child relationships tend to structure the quality of later adult-adult relationships" (p.30).

Working Models

Attachment theory uses the construct of the working model, adapted from cognitive science's concept of the schema, as the mechanism by which early attachment experiences influence later relational functioning. The individual differences in the patterns of behaviour demonstrated in the Strange Situation are understood to result from underlying differences in working models (Main et al., 1985). Infants and children are hypothesized to internalize their early experiences with their caregivers and form cognitive structures, or working models, of these events, which then guide expectations for other relational interactions. These early representations are assumed to be determined in large part by the attachment figure's availability and responsiveness to the child's needs (Bretherton, 1985), and are developed out of the child's attempts to gain comfort and security (Main et al., 1985). According to Bowlby (1973), confidence that an attachment figure is both available and responsive depends on two judgments made by the child from

the typical outcomes of these attempts: (a) the child judges the attachment figure to be one who generally responds to calls for support and protection, and (b) the child judges him/herself to be a person to whom others, and particularly the attachment figure, are likely to respond in an appropriate way. The working models of young children are considered likely to be reasonably accurate reflections of their actual social encounters (Bowlby, 1973).

Over time, the child's experiences are abstracted into broader, more generalized beliefs and expectations of the worthiness of the self and the availability and responsiveness of others. If caregiving has been relatively consistent during childhood and adolescence, repeated experiences will lead to solidified working models, which are expected to become part of the developing child's personality (Shaver, Collins, & Clark, 1996).

An important aspect of Bowlby's formulation of internal working models is that after they have been created they tend to operate out of conscious awareness (Bowlby, 1980). For this reason, and because, from an information processing perspective, new information is believed to be assimilated into current models, working models are thought to be resistant to change. Bretherton (1985) has argued, however, that in order for them to be of use working models must change. According to her, although they are based on and related to earlier versions, models change and become more sophisticated throughout childhood. This evolution accounts for changes in attachment behaviours as children develop greater ability to evaluate parents' motives, cope better, and assess the likelihood of safety and danger more accurately.

Although working models function primarily out of awareness, it is argued that they are highly accessible as part of the activity of information processing (Collins & Read, 1994). They are considered to be automatically accessed whenever attachment-related events occur. Once activated they have a direct impact on the cognitive processing of relational information and emotional appraisal. Cognitive research has determined that inasmuch as individuals attend to, encode, and later recall material which is consistent with their mood (Bower, 1981), cognitive processing is influenced by emotional processes. Reciprocally, cognitive appraisal of an event influences the emotional response (e.g., Lazarus & Folkman, 1984). According to Collins and Read (1994), if, for example, a person does not experience the supportive response expected from an attachment figure and interprets this as "she doesn't love me anymore", this appraisal will result in feelings of fear and distress. The reciprocal influence of cognitive and affective processes will finally determine one's behaviour.

As increasing attention has been directed toward attachment theory, more concern has been paid to the means by which working models influence the processing of information from the external world. Ideas and research in the area of social cognition have provided material for the consideration of this central construct (Bretherton, 1987, 1996; Collins & Read, 1994). Collins and Read summarized the relevant findings, which build on earlier notions in self-schema research. First, as Markus (1977) and Swann and Read (1981) determined, individuals selectively attend to information which can be easily assimilated into current knowledge about self and other, even if feedback is negative. Second, individuals tend to encode in memory information which is consistent with

already existing representations (Higgins & Baragh, 1987). Third, perceptions of others and interpretations and attributions of their behaviour are influenced by an individual's beliefs and expectations (Pierce, Sarason, & Sarason, 1992).

Bretherton (1987, 1990, 1996) reviewed the work of Schank (1982) in an effort to understand how persons acquire, use, and revise working models. Schank proposed that information obtained from autobiographic memory is organized and processed by different schema categories which correspond to aspects of an individual's external experience. The event representations are then interconnected and organized hierarchically according to the closeness of their correspondence to the actual experience. These models direct the processing of incoming information, and the hierarchy is updated according to the new input. An unexpected event is initially coded as an exception. After several repetitions, a new schema will be constructed. Bretherton (1990) proposed that memories which have been excluded from awareness are still connected to many other schemata at different hierarchical levels, and thus influence the formation of new schemata. Since these less available representations are not likely to be updated, individuals are susceptible to biased or incomplete processing, because, as Bretherton argued, in these instances distorted or dissociated experience is directing the processing of new experiences.

With respect to working models in early life, Bretherton (1990) conceptualized representations of self and other as multiple-level schema hierarchies. The lowest levels are "experience-near" interactional schemata of parental responses to particular events. Higher up are more general schemata about parental availability and support which subsume lower level schemata of need. At the top of the hierarchy are schemata about the

self (e.g., as lovable) and the other (e.g., as capable of loving). These highest schemata include a variety of general schemata. As the child develops, internal representations become more differentiated and hierarchically integrated, moving from specific, concrete descriptions of the self and others to, by adolescence, more abstract positions about relationships and personality.

Collins and Read (1994) also suggested that adult working models are organized in a hierarchical fashion. According to their version of the hierarchy, a general model of self and other are at the top, with the next level down consisting of schemata for parent-child relationships and peer relationships. Below are schemata for mother, father, friendships, and romantic relationships. At the bottom are models representing specific persons with whom the individual has peer and romantic relationships. Because the general models of self and other are seen to originally develop in relation to the primary caregiver, the model of the primary caregiver has great influence on the construction of more specific models in subsequent relationships. New models formed of particular relationships provide occasions for updating the general models. However, Collins and Read (1994) argued, the biases discussed above will make dramatic change unlikely, particularly from a single new relationship.

It may be that differences in attachment style, including attachment styles in adulthood, correspond to differences in schema content and organization (Collins & Read, 1994; Shaver et al., 1996). Differences in internal consistency, both at the same hierarchical level and between levels on the schema hierarchy, also determine which attachment style an adult will experience. Whereas relationships between people with

secure attachment working models are seen to involve open communication of emotional information, leading to continuous updating of working models, people with insecure working models are seen to live with inconsistencies in both internal structures and in the messages received from the external environment (Bretherton, 1996). For insecurely attached persons, information processing is influenced by incompatible working models and confusing input, leading to a restricted flow of information within the structure and difficulty in assimilating new information, which is itself distorted. This difficulty with accurately incorporating new information about self and other which insecurely attached people are believed to experience results in poor relationship adjustment, since it is through "tolerably accurate" models that one comes to behave adaptively in relationships (Bowlby, 1988).

Bretherton's description of the structure and functioning of insecure working models within the social-cognitive framework highlights the difficulty which insecurely attached persons may experience in relationships:

... insecure individuals develop working models of self and attachment figure in which some schemas or schema networks may be dissociated from others across and within hierarchical levels, giving rise to contradictory intrapsychic communications. In such a working model, updating of information may occur at one level or branch of a hierarchy, but may then not propagate to others; or schemas of feared or hoped for events may not be clearly tagged as such and hence treated as schemas of actual circumstances. The possible confusions, contradictions, and distortions in the interpretation and conduct of attachment

relations that such malfunctioning internal working models could generate are endless. Furthermore, such processes would also interfere with adequate interpersonal communication, as indeed confirmed by research based on the [cf. George, Kaplan, & Main, 1984] Adult Attachment Interview. (Bretherton, 1996, p.14)

Attachment in Adulthood

As mentioned above, attachment theory assumes that attachment bonds remain between persons throughout life, to parents, sexual partners, close intimate friends, and siblings (Ainsworth, 1989). Bowlby (1988b) maintained that, throughout life, a secure base was “indispensable for optimal functioning and mental health”. He stressed that emotion, which is always part of attachment experiences, has a powerful impact on human beings of any age:

A feature of attachment behaviour of the greatest importance clinically, and present irrespective of the age of the individual concerned, is the intensity of the emotion that accompanies it, the kind of emotion aroused depending on how the relationship between the individual attached and the attachment figure is faring. (Bowlby, 1982, p.4)

Following on the work of Bowlby and Ainsworth, research during the 1980s moved into the area of adult attachment, and evolved along two separate lines. One line focused on parenting and the other on romantic relationships (for a description see Bartholomew & Shaver, 1998). The two approaches were operationalized by the attachment measures presented next, the Adult Attachment Interview and Hazan and

Shaver's (1987) three category attachment measure.

Measurement of Adult Attachment

The Adult Attachment Interview (AAI). Main and her colleagues took the perspective that parents' current state of mind regarding attachment issues might influence their parenting behaviours. These researchers created the AAI (George et al. 1984), a structured, retrospective interview about the childhood experience of adults and their parents, in order to study parents' attachment with ratings of their offspring in the Strange Situation. Adult respondents (parents) were asked to describe their childhood relationships with their mother and father and support these descriptions with specific biographical instances. Direct questions were asked about childhood experiences of rejection, loss, abuse, separations, and being ill, hurt, or upset. Participants described their current relationship with their parents, assessed the impact of earlier life on present behaviour, and gave explanations for their parents' past behaviour. The interview was designed to draw out incongruities in thinking around attachment events, and inconsistencies in presentation of recollections and/or explanations. A single attachment category was given to the interview transcript, one of secure (autonomous), dismissing, or preoccupied. The rating was considered to represent the adult's state of mind regarding attachment (Dozier & Tyrrell, 1998). The body of research using the AAI is beyond the purview of this study (see, e.g., van IJzendoorn, 1995; Jones, 1996; Main, 1996) . However, reference has been made for completeness and because an active debate continues in adult attachment research over the psychological domains accessed with interviews and self-report measures (see, e.g., Bartholomew & Shaver, 1998).

Hazan and Shaver's three category model. In 1987, Hazan and Shaver created the first self-report measure of adult attachment by translating the three attachment patterns observed previously with infants (e.g., Ainsworth et al., 1978) into descriptions applicable to adult romantic relationships. Respondents were asked to choose the one category which best described the way they usually felt in romantic relationships from three descriptions: secure, anxious-ambivalent, and avoidant. The secure category refers to those who experience trust and comfort with closeness in romantic relationships, whereas the avoidant description relates to a reluctance to trust and a preference for preserving emotional distance. The third category, anxious-ambivalence, involves a lack of faith in the availability of the partner, and a strong, unmet longing for emotional closeness.

Variations on the Hazan and Shaver approach have been adopted by other researchers. In one approach, researchers (e.g., Feeney & Noller, 1991; Levy & Davis, 1988) retained the three attachment style descriptions, but asked subjects to rate themselves on each dimension using a continuous rating scale. A second approach involved breaking the attachment themes in the paragraph descriptions of attachment styles into several items and having subjects rate the degree to which each item described them (e.g., Simpson, 1990). This has allowed statistical analyses to determine dimensions underlying attachment measures (Collins & Read, 1990; Feeney, Noller, & Callan, 1994; Simpson, 1990), as discussed below.

Bartholomew's four category model. Bartholomew (Bartholomew 1990; Bartholomew & Horowitz, 1991) developed a model of individual differences in representations of attachment consisting of four prototypic attachment patterns. Building

on Bowlby's (1973) notion that as children's experience with the world unfolds infants and children create internal representations of the self and other, Bartholomew defined four attachment patterns arising from the intersection of two underlying dimensions, positivity of models of self and positivity of models of hypothetical others.

The extent to which an individual demonstrates positivity of the self is hypothesized to reflect a sense of self-worth. Persons with positive self models do not depend on ongoing external sources for self-validation, but rather rely on an internalized sense of self-worth, presumably obtained from earlier experiences (Bartholomew, 1993). Those with an internalized sense of self-worth expect others to respond positively to them. In this way, the model of self is associated with the extent to which one experiences anxiety and dependency in close relationships. The positivity of other model represents the degree to which one generally expects others to be available and supportive. Individuals with positive models of others are more likely to actively seek out support and intimacy when in close relationships, whereas those with negative models are liable to avoid seeking support and intimacy.

Bartholomew's (1990) formulation created four categories of adult attachment patterns from the intersection of the two orthogonal dimensions, model of self and model of other. Whereas an individual's models of self and other are general *expectations* about the worthiness of that person and others' availability, the four patterns of attachment are proposed to represent prototypes of *strategies* used to regulate the experience of security in close relationships (Griffin & Bartholomew, 1994). The four patterns, obtained by dichotomizing the models of self and other into positive and negative models, have been

labelled secure, preoccupied, fearful, and dismissing. Bartholomew (Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994) described these patterns as theoretical ideals that represent individuals to differing degrees. The patterns and their relation to underlying dimensions are presented in Figure 1.

As illustrated in Figure 1, the secure category, involving both positive model of self and positive model of other, is conceptualized to represent a sense of worthiness or lovability, along with the belief that others are responsive and accepting. The preoccupied category, representing a negative model of self and a positive model of other, describes those who have a deep-seated belief of themselves as unlovable, but view others as desirable. This combination results in attempts to gain self-acceptance by obtaining the acceptance of others (Bartholomew & Horowitz, 1991). According to Griffin and Bartholomew (1994b), the positive model of other leads preoccupied individuals to confirm their delicate sense of self-worth through unreasonable closeness in personal relationships. When their intimacy needs are not met, these persons are vulnerable to extreme distress.

The remaining two categories are particular to Bartholomew's formulation of attachment, and differentiate reluctance to become involved with others into two patterns of attachment (Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994b). As seen in Figure 1, these patterns, fearful and dismissing, both involve a negative model of others, but different models of self. The fearful pattern represents persons with both a negative model of self, i.e. unworthiness, and a negative model of other, i.e. other as untrustworthy or rejecting. Fearful persons are thus both dependent on others for

validation of their self-worth, yet need to avoid intimacy to escape the distress of potential loss or rejection. Persons in the fourth category, dismissing, have a negative model of others, but a positive model of self. They are believed to avoid closeness because of negative expectations about others. However, they are thought to maintain their positive sense of their own worth by defensively denying their need for connection and espousing the values of independence and invulnerability. Bartholomew (1990) conceptualized these two avoidant categories as representing "different imbalances" in the experiences of individuation and connectedness, so that "the dismissing have attained autonomy and a sense of self-worth at the expense of intimacy, while the fearful have difficulties with both autonomy and intimacy" (Bartholomew, 1990, p.165). According to Bartholomew and Shaver (1998), there are parallels between Bartholomew's fearful and Hazan and Shaver's avoidant categories, and between Bartholomew's dismissing category and the dismissing category of the AAI.

In a study designed to validate Bartholomew's (1990) model of attachment Bartholomew and Horowitz (1991) investigated the correspondence between each attachment prototype, identified by a semi-structured interview, and measures of self-concept, sociability, and interpersonal problems. On three measures of self-concept (self-esteem, self-acceptance, and subjective distress) the prototypes proposed to involve negative models of self showed significantly lower self-concept ratings. Persons rated as belonging to either the preoccupied or fearful prototypes reported significantly higher levels of subjective distress, and lower scores on self-esteem and self-acceptance

		Model of Self	
		(Anxiety)	
		Positive (Low)	Negative (High)
Model of Other (Avoidance)	Positive (Low)	Secure	Preoccupied
	Negative (High)	Dismissing	Fearful

Figure 1. A four-category model of adult attachment.

measures. Those rated as fearful or dismissing, prototypes with negative models of other, showed significantly lower scores on sociability. In addition, friends reported the dismissing group as particularly low on sociability. Using a circumplex procedure to locate different attachment prototypes in two dimensional space in terms of the dimensions interpersonal warmth and interpersonal dominance, Bartholomew and Horowitz (1991) showed that attachment styles differed in profiles of interpersonal problems. Whereas preoccupied subjects were found to have interpersonal difficulties centred in the warm-dominant quadrant, problems of fearful subjects, who also are defined as having negative self models, were located in the cold-passive quadrant. Comparing the two attachment prototypes involving negative model of other, fearful subjects showed interpersonal problems related to lack of assertiveness. Dismissing subjects had problems related to their high score on the dominance axis.

Measurement of the four category model. Research into the four-category model has been undertaken with various measuring tools. Three instruments have been designed to directly assess the correspondence between a person and each attachment prototype (Griffin & Bartholomew, 1994a). Two of these are semi-structured interviews from which trained judges, using interview audio recordings, rate on a 9-point scale the correspondence to each attachment pattern. The Peer Attachment Interview asks about friendships, romantic relationships, and feelings about the importance of close relationships (Bartholomew & Horowitz, 1991). The Family Attachment Interview is an adaptation of the Peer Attachment Interview, and follows a similar format. Its focus, however, is on representations of experience in the family of origin (Griffin &

Bartholomew, 1994a), as is that of the AAI. Each of the interview scoring procedures results in a score for each attachment prototype. The third direct measure of attachment prototypes is the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991). This self-report instrument is made up of four paragraphs describing the four prototypes, and persons are asked to indicate the extent to which the description fits them along a 7-point scale. The prototype with the highest rating can be viewed as the best-fitting category for that person, and the score can be considered an indication of how well the category describes that individual. In this way, individuals are rated on the degree to which they correspond to the theoretical prototype. According to Griffin and Bartholomew (1994a) most persons show elements of more than one attachment category. In order to obtain a satisfactory picture of a person's feelings, expectations, and beliefs regarding close relationships, profiles across the four domains should be considered.

For both the two interviews and the RQ, individuals can be rated on the positivity of self and positivity of other models. To obtain a value for the positivity of self model, scores on the secure and dismissing categories (defined by a positive model of self) are added, and from this sum the sum of scores on the fearful and preoccupied patterns (involving negative model of self) are subtracted. Similarly, the positivity of other score can be calculated by subtracting the sum of the dismissing and fearful categories from the sum of the secure and preoccupied scores.

Bartholomew also created an indirect measure of the prototypes, the Relationship Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994a). This self-report instrument is made up of phrases taken from the attachment category descriptions in the original three-

category attachment model by Hazan and Shaver (1987), the RQ (Bartholomew & Horowitz, 1991), and the Adult Attachment Scale (Collins & Read, 1990). Of the 30 items, rated on a 5 point scale, five items represent aspects of the secure and dismissing types, and four items contribute to the scoring for fearful and preoccupied categories. Attachment prototype scores are the means of the ratings on the category items.

Dimensions Underlying Adult Attachment

A number of attachment researchers have attempted to clarify the dimensions which underlie patterns of adult attachment. Using instruments derived from Hazan and Shaver's (1987) three category model, some have determined attachment dimensions which, it has been argued, correspond to model of self and other: e.g., anxiety and avoidance (Simpson et al., 1992); and anxiety and comfort with closeness (Collins & Read, 1990). A second pair of dimensions has been obtained for the Hazan and Shaver categories by other researchers. Shaver and Hazan (1993) and Griffin and Bartholomew (1994) suggest that this pair corresponds to a 45 degree rotation of the self and other model. Two versions of this second grouping are the Kobak and colleagues (1991) dimensions, secure-insecure and dismissing- preoccupied; and Brennan, Shaver, and Toby's (1991) dimensions secure versus avoidant and high versus low anxious-ambivalent. Kobak, Cole, Ferenz-Gillies, Fleming, and Gamble (1993) created a Q-sort scoring system for the AAI in which subjects are coded on two dimensions, secure-insecure and deactivating-hyperactivating, the latter terms referring to the attachment strategies used to regulate focusing of attention toward or away from attachment cues and exaggerating or minimizing distress cues.

Relational Correlates of Adult Attachment

Research into the correlates of adult attachment has been carried out subsequent to the creation of the 1987 self-report questionnaire of Hazan and Shaver. Many studies involved assigning persons to discrete attachment categories, and attempted to determine the association between attachment categories and variables thought to be related to attachment notions.

Research with individual subjects. The largest collection of studies assessing correlates of adult attachment has been done with individual subjects either reporting on a relationship or providing data as individuals on attachment related variables. In their initial research Hazan and Shaver (1987) determined that, although persons allocating themselves to any of the three attachment types claimed to share a core experience of romantic love, individuals indicating different attachment types differed in the way they described their most important love relationship. Lovers self-described as secure reported their love experience as happy, friendly, and trusting. There was a relative absence of jealousy and fear of intimacy. In contrast, avoidant lovers indicated experiencing fear of intimacy, jealousy, and emotional highs and lows. They reported the lowest incidence of positive relationship experiences. Anxious/ambivalent subjects also reported emotional highs and lows, as well as extreme jealousy and sexual attraction. These lovers scored significantly higher in their descriptions of love as involving obsessive preoccupation, love at first sight, desire for union, and desire for reciprocation.

Since the initial research of Hazan and Shaver, investigation has continued on the correlates of adult attachment patterns. Individuals rating themselves as

anxious/ambivalent have been found to have low self-esteem (Collins & Read, 1990; Feeney & Noller, 1990); a tendency to self-disclose indiscriminantly and in an overly intimate manner (Mikulincer & Nachshon, 1991); an experience of love involving idealization, preoccupation, dependence, mania, and a strong reliance on the partner (Collins and Read, 1990); and a tendency to assert their own feelings and needs over the needs and feelings of their partners (Daniels & Shaver, 1991, cited in Hazan & Shaver, 1994a). They were found to have greater difficulty establishing friendships in a new environment (Hazan & Hutt, 1991). Collins (1996) found that anxious/ambivalent persons were more likely to use negative attachment themes to explain imagined events than secure individuals, were more likely to make negative attributions about a partner's imagined behaviour, and were more likely to experience emotional distress and nervousness. Bookwala and Zdaniuk (1998) determined that higher ratings on the preoccupied category of the RQ (Bartholomew & Horowitz, 1991) were related to being in a reciprocally aggressive dating relationship. In the AAI (George et al., 1984) these people discussed their attachment history in an overly effusive and poorly organized manner.

Research into avoidant attachment using individual subjects has shown that these persons avoid self-disclosure and are uncomfortable with partners who self-disclose (Mikulincer & Nachshon, 1991); are more likely to avoid intimacy in romantic relationships and less likely to idealize these relationships (Feeney & Noller, 1990); in late adolescence are judged by peers as hostile (Kobak & Sceery, 1988); and are more likely to take part in casual sexual relations, and to use alcohol and other substances when anxious

(Brennan, Shaver, & Tobey, 1991). Collins (1996) found that avoidant adults were most likely to believe an imagined partner's behaviour was caused by something the partner could control, and were more likely than secures to attribute partner's behaviour as relating to themselves and the relationship. However, avoidants did not report experiencing emotional distress, as anxious/ambivalent adults had. During the AAI (George et al., 1984) avoidant subjects gave idealized descriptions of their childhood relationships with their parents, but were unable to substantiate them with examples.

Kunce and Shaver (1994) investigated the relation between attachment, using Bartholomew's four-category model, and dimensions of caregiving. Factor analysis of caregiving items revealed four caregiving scales: proximity versus distance, reflecting the ability to be physically and psychologically available to a distressed partner; sensitivity versus insensitivity, the ability to notice and accurately interpret the needs, feelings, and signals of a partner; cooperation versus control, which represents the tendency to support the partner's efforts to solve problems; and compulsive caregiving, the inclination to become overly involved in their partners' problems. In a study where subjects were presented with a hypothetical situation, secure subjects tended to be higher on provision of proximity and sensitivity, and relatively low on compulsive caregiving. Preoccupied subjects were also relatively high on providing proximity, but were relatively low on sensitivity and cooperation, and highest on compulsive caregiving. These findings suggest that although preoccupied persons are capable of providing affectionate caregiving, it may be intrusive and not in tune with the partner's needs. Bartholomew and Horowitz (1991) reported characteristics consistent with these findings for the preoccupied type, namely

that while these persons seek intimacy with others they also demonstrate an interpersonal style which is controlling and overly dominating. Correspondences in the Kunce and Shaver study between caregiving dimensions and the two avoidant attachment styles, fearful and dismissing, also supported the hypothesis of Bartholomew and Horowitz (1991) that these styles both represent avoidance of intimacy but are different in the need for acceptance and approval of others. Fearful individuals selected items indicating relatively low proximity-provision and sensitivity, and relatively high compulsive caregiving, which may be a reflection of the need for acceptance from others (Kunce & Shaver, 1994). Dismissing subjects scored lowest on compulsive caregiving and proximity-providing, and relatively low on sensitivity to partner's needs and signals.

Mikulincer and associates have carried out a series of studies with university students investigating attachment and affect. In a study of repressive defensiveness and different attachment styles using a memory retrieval task, Mikulincer and Orbach (1995) determined that secure people showed moderate levels of defensiveness (repression of negative thoughts and affect), and low levels of anxiety, anxious-ambivalent people reported higher levels of anxiety and low repressive defensiveness, and those avoidantly attached reported moderate to high levels of anxiety and high defensiveness. These findings are seen to suggest that anxious-ambivalent people have difficulty regulating their inner distress and cannot limit the spreading of emotional distress from one event to another, whereas avoidant persons inhibit access to unpleasant emotional memories yet still experience anxiety. Subsequent studies determined that securely attached persons had a more positive view of self (Mikulincer, 1998a), showed lower proneness to anger and

had more adaptive responses in anger-provoking situations (Mikulincer, 1998b), and demonstrated more accurate assessment of self-other similarities than either anxious-ambivalent or avoidant persons (Mikulincer, Orbach, & Iavnieli, 1998).

Attachment and dating couples. Studies have also looked at attachment categorization and relationship variables with couples as subjects. Of these, most have involved dating couples enrolled in university. Simpson (1990) carried out a study of dating couples in which one member was a student, using continuous measures of attachment style based on Hazan and Shaver's (1987) three category classification. As predicted, differences in attachment styles were related to qualitative differences in the nature of the romantic relationship. Partners who scored higher on the secure index reported their relationships to include greater interdependence (greater love for, reliance on, and self-disclosure with the partner), commitment, trust, and satisfaction. Those scoring higher on avoidance reported being part of relationships having lower degrees of interdependence, commitment, trust, and satisfaction. Furthermore, differences in attachment styles reflected different emotional experiences. For both men and women, higher scores on the secure index were associated with experiencing less intense negative emotion, less mild negative emotion, more intense positive emotion, and more mild positive emotion as compared with subjects scoring higher on the insecure attachment indices.

Collins and Read (1990) used a multi-item measure, the Adult Attachment Scale, which gives scores on three attachment dimensions (comfort with closeness, ability to depend on others to be available, and anxiety in relationships) to look at the match

between dating partners' perceptions of the quality of their relationship. For both men and women, attachment-style dimensions were related to the partner's rating of the relationship. However, the attachment dimension which most predicted partner's relationship evaluation differed for men and women. Whereas men's degree of comfort with closeness was the dimension most predictive of how the female partner evaluated the relationship, for women the dimension which most influenced their male partner's rating was fear of abandonment (anxiety dimension). Findings showed that for women, those whose partners were comfortable with closeness gave more positive overall ratings of their relationship. They perceived less conflict, were more satisfied, spent more time with their partner, and felt closer to him. They believed communication was better, and were more trusting of their partners. In addition, they were less likely to demonstrate jealous behaviours and respond jealously in jealousy-evoking situations. By contrast, men's evaluations of the relationship were much more negative when the partner scored highest on the anxious dimension of attachment, compared to scores on the other two dimensions. Their ratings of relationship satisfaction were lower, they reported more conflict, did not feel as close to the partner, liked her less, and did not trust her as much. These men said they were less likely to marry their dating partner, had less faith in her, and experienced her as less predictable and dependable. They also gave lower scores on the general communication level, and reported less self-disclosure to their partner.

Interestingly, in the Collins and Read (1990) study, men and women subjects' attachment ratings predicted their own relationship satisfaction in the same pattern as had their partners. Women's fear of abandonment was the strongest predictor of a negative

evaluation of the relationship. Women afraid of being abandoned reported lower general satisfaction, did not feel as close to their partner, trusted him less, had much less faith in him, were more likely to feel and act jealous, and experienced more communication problems. They saw themselves as less responsive listeners, and their partners as less self-disclosing. For men, their own attachment score on comfort with closeness best predicted their relationship evaluation. Men comfortable with closeness saw their relationship more positively, reported more satisfaction, liked the partner more, felt closer, and felt they were more likely to marry her. They were more trusting of the partner, had much more faith in her, and described her as more dependable. They also gave higher ratings on the general level of communication, and believed they disclosed more to their partner.

Kirkpatrick and Davis (1994) reported a 3-year longitudinal study of dating couples in which 49% of the couples were still together in a serious dating relationship after three years. Using Hazan and Shaver's (1987) three category model at the beginning of the study, these researchers found that men's attachment style was strongly related to their own ratings of the relationship assessed concurrently, but largely unrelated to their partners' concurrent relationship ratings. Avoidant men's self-reports of their relationships were the least positive on all dimensions. They also scored significantly lower on committed, satisfied, viable (trust, respect, acceptance of others' faults), intimate, and caring aspects of relationship than secure men, and significantly lower on commitment and passion than anxious men. There were only two ways in which men's attachment style was related to women's relationship ratings: women whose partners were avoidantly attached gave higher ratings on passion than those whose partners were anxiously attached; and

women whose partners were anxiously attached described more conflict-ambivalence than women with either securely or avoidantly attached partners. Contrary to the findings of Collins and Read (1990) and Simpson (1990), women with avoidant male partners were as likely to rate their relationships favourably as women with partners scoring highest on other attachment styles.

The attachment styles of women in the Kirkpatrick and Davis (1994) study showed different patterns of relationship satisfaction than men's attachment styles, with anxious attachment producing the most negative ratings of the relationship for both women and their partners. Women with anxious attachment reported less satisfaction and caring than securely attached women, as well as greater conflict-ambivalence. Avoidant women also scored higher on conflict-ambivalence. In addition, men whose partners described themselves as anxious indicated less commitment, satisfaction, and intimacy, and more conflict-ambivalence than men whose partners were secure. The above findings are all consistent with those of Collins and Read (1990). With regard to relationship stability, Kirkpatrick and Davis (1994) found that attachment style was a significant factor in the prediction of relationship stability in a surprising way, namely that over the three year period the most stable relationships were those in which the female partner was anxiously attached. This is interesting, given that women with anxious attachment styles had the most negative relationship ratings. For men, avoidant attachment predicted greatest relationship stability at one-year follow-up, with anxious attachment producing the least stability. At three years, the same pattern was found, but differences in relationship stability across attachment groups were not statistically significant.

In a study of attachment in a laboratory setting, Simpson, Rholes, and Nelligan (1992) investigated dating couple interactions when the female partner was confronted with an anxiety-provoking situation. Findings showed that women rating higher on attachment security tended to look for support from their partner as their anxiety increased, whereas those who were more avoidant tended to seek less support when experiencing an increase in anxiety. In addition, men who scored highest on secure attachment tended to offer more support as their partners became more anxious, whereas avoidant men were less likely to do so. Anxious attachment did not relate to support seeking or support giving behaviours.

Following on the Kuncze and Shaver (1994) study of attachment and caregiving with individuals responding to a hypothetical situation, Carnelley, Pietromonaco, and Jaffe (1996) carried out two studies relating caregiving and attachment, one with dating couples and one with married couples. Findings showed that persons rated more highly on fearful-avoidant attachment reported giving less care to the partner. Interestingly, for dating couples, preoccupied ratings did not predict reports of caregiving. For married individuals, higher ratings on the preoccupied dimension corresponded to fewer caregiving activities.

Attachment and married couples. In addition to the above studies investigating the role of attachment in dating relationships, studies have looked at married couples and attachment. Kobak and Hazan (1991) used a Q-sort to determine attachment security from a combination of two dimensions, self-description of reliance on partner and description of partner's psychological availability. Results showed that when wives and husbands reported relying on their partner, both indicated higher levels of marital adjustment.

Husbands' models of their wives as available covaried with both partners' reports of relationship adjustment, and wives' models of their husbands being available were associated with their own reports of relationship adjustment. Senchak and Leonard (1992) also looked at attachment with married couples. As part of a longitudinal study of alcohol use and marital functioning involving young couples married up to a year, the researchers found that when both partners rated themselves as secure with the Hazan and Shaver (1987) single-item measure, each spouse scored significantly higher on ratings of intimacy and partner functioning. The couples reported lower frequency of withdrawal and verbal aggression by their partner when involved in the conflict resolution process.

In a longitudinal study of communication, Noller and Feeney (1993) investigated the relation between the attachment dimensions comfort with closeness and anxiety over abandonment and ratings of accuracy at decoding non-verbal cues. Results indicated that for husbands, anxiety over abandonment was negatively related to accuracy for decoding positive, negative, and neutral messages one year into their marriage. For wives, those indicating low comfort with closeness were less capable of decoding neutral and negative messages. Another part of this longitudinal study was reported by Feeney and colleagues (1994). Using a diary measure of couple communication, the researchers found that the dimension of attachment which predicted quality of communication variables was different for husbands and wives. For husbands, the comfort with closeness dimension was positively associated with their reports of higher levels of recognition, disclosure, involvement, and satisfaction with communication in the relationship. The data for wives, on the other hand, indicated significant correspondence between their higher scores on

anxiety of abandonment and lower ratings of couple involvement and satisfaction. Wives' scores on the anxiety dimension corresponded positively with their ratings of conflict and domination in the relationship. Feeney and colleagues (1994) suggested that wives' anxiety over abandonment tended to increase the amount of marital conflict and the inclination to attempt to dominate the partner, underlining the link between anxiety and effort to control the partner. These findings from the diary part of the study are consistent with those of Kobak and Sceery (1988) that suggested, for late adolescents, attachment anxiety involved heightened attention to negative emotion and less constructive reactions to conflict.

Finally, a pilot study by Berman, Marcus, and Berman (1994) determined that persons in marriages with insecure partners were more unhappy than those with secure spouses.

It is apparent from the above research findings that persons who self-report a secure attachment pattern show fewer problems in adaptation. Insecure attachment patterns have been found, for example, to relate to experiences of loneliness, low self-esteem, greater negative emotion, violence, and anxiety and depression. Furthermore, studies with couples show that insecure attachment patterns are related to lower ratings of relationship satisfaction, more unhappiness, more conflict, less faith and trust, more jealousy, less intimacy, and greater communication problems. Female partners' experiencing abandonment anxiety and male partners' lack of comfort with closeness seemed to be particularly detrimental to relationship functioning.

Emotionally Focused Therapy

Emotionally Focused Therapy (EFT) for couples (Greenberg & Johnson, 1986) is an empirically validated approach to couples therapy (Alexander, Holtzworth-Munroe, & Jameson, 1994) which uses an attachment model of adult love relationships. Marriage is considered to involve an emotional bond between the partners, so that both health in relationships and marital distress are viewed from an attachment perspective. Based on experiential models of change, the goal of EFT is to process affect and create new interactions, which are seen to lead to a more secure attachment bond. EFT combines the interactional approach of systemic therapy with an emphasis in therapy on the value of acknowledging and expressing feelings and needs which an individual has disowned or experienced as discounted by the partner. Relationships are considered to be affect-charged attachments in which each partner is viewed as the primary source of basic security, contact, and affection for the other (Johnson, 1986). In addition, the partner is a principal source of information regarding the value and nature of the self (Greenberg & Johnson, 1986). In EFT, couple distress is formulated as the result of one or both partners experiencing the self as alienated and emotionally deprived in the relationship. The effect of expressing previously denied or unappreciated feelings, with their associated needs, during therapy is to bring about a change in each partner's experience of the relationship and in the couple's interaction cycle (Greenberg & Johnson, 1986).

Emotion in EFT is considered to perform the function of a primary signalling and communicating system. Thus, experiencing emotion can lead to adaptive behaviours. From an information processing perspective, emotional experience in close relationships

provides the structure for the perception of the partner, enhances access to central appraisals of the self in relation to the other, and organizes attachment responses. Increases in the extent of emotional exploration and expressiveness through the EFT process, which lead to increased self-disclosure, have been found to result in changes in perception of the partner, and to more affiliative responses between partners (Greenberg, James, & Conry, 1988). As each spouse becomes more available to the other, each becomes more responsive. Through increased positive interactions, trust in each other grows and interaction cycles become more positive and affiliative. From an attachment perspective, this process is predicted to increase positivity in the model of self as lovable, and positivity in the model of specific other (the partner) as available and responsive.

Formulation of the process of change in EFT has been developing over the last ten years. Three basic therapeutic tasks in EFT have been described: creating and maintaining a therapeutic alliance with each partner; accessing and reprocessing emotional experiences of each partner; and restructuring interactions between partners (Johnson, 1996). Johnson (1996) formulated the nine steps of a course of EFT, which represent the process of change:

1. **Assessment.** This includes creating an alliance and describing conflict issues which comprise the central struggle.
2. **Identify the negative interaction cycle.**
3. **Access the unrecognized emotions which are the underlying basis for each partner's position in the interaction cycle.**
4. **Reframe the problem in terms of underlying emotions and attachment needs.**

5. Encounter previously unformulated or avoided experiences and needs, and integrate them into interactions in the relationship.
6. Promote acceptance of each partner's experience and new ways of interacting.
7. Promote each partner's efforts to express needs, leading to increased emotional engagement.
8. Facilitate creation of new responses to issues in the relationship.
9. Consolidate new positions and cycles of attachment behaviours.

Johnson (1996) described three movements, or shifts, which take place during the process of change in EFT. The first is cycle de-escalation, in which the elements of the interaction cycle are modified to a degree, but the organization of the interactions remains unchanged. The most common interaction with distressed couples involves one partner withdrawing and the other pursuing for closeness. The second shift in EFT happens when the partner who is regularly more withdrawn begins to participate more in the relationship. As this partner begins to assert his/her needs and desires he/she becomes more emotionally involved with the other partner in the sessions. The third shift is seen to occur when the pursuing partner, who is typically more hostile and active, dares to express his/her own attachment needs for security and closeness. The increased vulnerability of this partner provides an opportunity to work on the issues of trust in the relationship. These shifts are, in fact, part of a cycle in which the reduced hostility of critical partner promotes risk-taking by the more withdrawn partner, which in turn encourages the critical spouse to be more vulnerable and disclose needs and wants more openly. This facilitates the responsiveness of the less engaged partner. Once the typical interactions of the couple

have been reorganized the attachment-related events can take place. At this point spouses are ready to be open with each other regarding their needs and fears, thereby enabling the re-establishing of the connection between them. In attachment terms, each partner is encouraged to use the other as a secure base.

The Present Study

The present study was designed to determine whether EFT could produce a positive change in attachment working models of self and other. Because of its emphasis on accessing emotion, and through this process bringing about subsequent changes in partner response, it was thought that EFT was a particularly appropriate therapy for bringing about change in attachment patterns. According to Collins and Read (1994), significant changes in working models are likely to occur only when disconfirming evidence is presented which is relatively powerful. One of the factors which determines whether an event is powerful, is whether it is emotionally significant. Thus, a therapy designed to challenge and disconfirm existing negative models of self and partner through accessing emotional experiences and fostering accessibility and responsiveness of the secure partner was seen to be consistent with current thinking in cognition.

As Collins and Read (1994) observed, research in cognitive social psychology has suggested that schema change usually occurs through models becoming more elaborated and complex, rather than replaced or destroyed. These updated models are proposed to contain more specific submodels. Thus, it was hypothesized that repeated, carefully targeted interventions designed to provide an experience of the partner as more accessible and responsive would lead to a more positive view of the partner as available and a more

positive view of the self as worthy of love. Although attachment theory has suggested that more general working models change very slowly, the question to be investigated was whether specific attachment models with respect to a spouse could be altered through powerful experiences in therapy.

A number of studies have determined that EFT is effective in resolving marital distress (e.g., Goldman & Greenberg, 1992; Johnson & Greenberg, 1986). Johnson, Hunsley, Greenberg, & Schindler (1999) conducted a meta-analysis of the effectiveness of EFT with the Dyadic Adjustment Scale (DAS; Spanier, 1976) as the outcome measure, and obtained a mean effect size of 1.28. The analysis was determined using four randomized clinical trials in which the focus of treatment was marital distress.

The present study extended the approach of the traditional outcome study of EFT effectiveness. This study asked a particular question about changes underlying the EFT process, namely, could EFT bring about change in attachment working models. In order to determine that any changes which were obtained over the course of the therapy were a result of the clinical intervention, couples were selected for the study on the basis of attachment ratings and were randomly assigned to either the EFT treatment group or a waitlist control group. Measurements for the attachment variables were taken three times: at recruitment; at the end of therapy for the treatment group, with corresponding assessment for the control group taken four-months after the initial assessment; and four months later for each group. Between-group comparisons were made to determine changes from pre- to posttreatment and from pre-treatment to follow-up.

Hypotheses

The first and second hypotheses were formulated from the core research questions of the study, namely, whether EFT could bring about an improvement in working models of attachment, the model of self and the model of other.

1. It was predicted that, from pre- to posttreatment, the extent of change in individuals' working models of self would be significantly more positive for the group receiving EFT when compared to the wait-list control group.

2. It was predicted that, from pre- to posttreatment, the extent of change in individuals' working models of other would be significantly more positive for the group receiving EFT when compared to the wait-list control group.

The third hypothesis related to the four attachment prototypes which are used in the theoretical and mathematical formulation of the models of self and other. Couples were recruited into the study according to the criterion that at least one partner rate highest on an insecure attachment prototype when completing the RQ. Given that increases were predicted to take place in the positivity of the working models of self and other for the group receiving EFT, it followed that significant improvements, relative to the control group, would have occurred in at least some of the attachment prototypes from which the scores on working models of self and other were obtained. The third hypothesis was as follows.

3. For the treatment group, scores on the secure rating were predicted to increase from pre- to posttreatment, whereas scores on the three insecure prototype ratings were expected to decrease. It was predicted that improvement would be significantly greater for

the treatment group than for the control group.

The fourth hypothesis related to a measure of marital adjustment, the Dyadic Adjustment Scale (DAS; Spanier, 1978). Because the effectiveness of EFT has traditionally been assessed by the DAS (Johnson et al., 1999), it was included in this study as a means of comparing the process of therapy in the present study with other studies involving EFT, and as an indicator of the outcome of the therapy, in addition to the attachment measures.

4. It was predicted that the group receiving EFT would show significantly greater improvement on the measure of marital satisfaction than the wait-list control group from pre- to posttreatment.

The fifth hypothesis related to the stability of the therapeutic gains. Attachment theory predicted that working models would be difficult to change, and that improvements would not follow a straight course. According to Collins and Read (1994), for example, it is thought that knowledge structures are most likely to change by becoming more elaborated and complex, rather than replaced. They suggested that as this process of elaborating models takes place the crucial issue is which models will be activated. Given that little is known about changing working models, it was important to determine whether changes obtained at the end of therapy would be evident at a later time. The last hypothesis predicted that changes would be maintained.

5. It was hypothesized that the significant group differences in changes on the attachment and marital satisfaction measures predicted to occur between pre- and posttreatment would be maintained at 4-month follow-up.

Method

Overview

Couples were recruited and randomly assigned to treatment and control groups. Attachment and marital satisfaction measures were collected at three time intervals. For the treatment group data were collected at the initial assessment, at the end of treatment, and four months later. Between the first and second assessment, couples in the treatment condition received a minimum of 15 sessions of EFT. For the control group couples, data collection attempted to match this time line. Data were gathered at the initial assessment, and four and eight months later.

Participants

Participants were recruited through newspaper advertisements, newspaper columns, radio and television interviews, classroom presentations at the University of Ottawa, and flyers posted at the university and at community and recreation centres throughout the Ottawa-Carleton region. Couples who were admitted into the study met the following inclusion criteria:

1. The couple was presently living together and had lived together for at least two years.
2. The minimum age of the partners was 25 years.
3. There was no present problem with violence between the partners.
4. Neither partner acknowledged a history of sexual abuse.
5. Partners stated that there was no current difficulty with alcohol or drugs.
6. At least one partner indicated an insecure attachment pattern on the RQ.

7. Scores on the DAS were in the mild to moderate distress range for at least one partner (scores 85 to 100).

The rationale for this criterion was that, in clinical practice, scores lower than 100 are seen to indicate marital distress, and scores of 70 correspond to those of couples seeking divorce (Spanier, 1976). Thus, scores between 85 and 100 were considered to represent the mild to moderate distress range.

Measures

Attachment Prototypes

The Relationship Questionnaire (RQ). The RQ (Bartholomew & Horowitz, 1991) is a self-report measure designed to classify individuals into their primary attachment prototype according to Bartholomew's four-category model of attachment patterns. The instrument is comprised of four paragraphs depicting the four prototypes, and persons are asked to indicate the extent to which each paragraph describes them along a 7-point scale. The wording of the paragraphs can be adapted to target a particular attachment figure. For the purposes of this study respondents were asked to rate themselves on each attachment prototype in the context of their relationship with their partner. The descriptions were worded to direct the focus onto the partner. The intention of this adaptation was to obtain a measure of subjects' current working models of their partners.

Griffin and Bartholomew (1994a) observed that most persons show elements of more than one attachment category. The RQ allows for categorization into the most dominant attachment pattern, as well as providing a score on that pattern, scores on all attachment prototypes, and scores on the underlying model of self and model of other

dimensions. The latter are obtained by the formulae:

$$\text{model of self} = (\text{secure} + \text{dismissing}) - (\text{preoccupied} + \text{fearful})$$

$$\text{model of other} = (\text{secure} + \text{preoccupied}) - (\text{dismissing} + \text{fearful})$$

The RQ was used to select couples for the study according to the attachment criterion of at least one partner showing an insecure attachment prototype rating as the highest rating. It was also used to measure attachment prototype scores and obtain scores for model of self and model of other at the three assessment periods, pretreatment, posttreatment, and four-month follow-up. Because each prototype is measured by a single item, measurement of internal consistency is not possible. However, comparisons of ratings on the RQ with other theoretically related attachment measures, e.g., the AAI and Hazan and Shaver's (1987) 3-category measure demonstrated significant correspondences between the relevant classifications (Bartholomew and Shaver, 1997), indicating that the RQ has construct validity. Test-retest reliability over an 8-month period for the RQ ranged from .53 to .58 for females, and from .39 to .58 for males on continuous ratings of the prototypes (Griffin & Bartholomew, 1994). Ognibene and Collins (1998) reported correlations between the RQ continuous ratings and a modified version of the RSQ. Correlations between the measures on corresponding prototypes ranged from .54 to .72, suggesting convergent validity between the measures on attachment constructs. Although the test-retest correlations for the RQ are lower than is generally advised psychometrically, they are comparable to those of other attachment self-report measures. Collins & Read (1990), for example, reported test-retest correlations between .52 and .71 for the dimensions of their measure over a 2 month period. Given the similar performance

of other self-report measures of attachment and the fact that the RQ is based on the theoretical model of interest, the RQ was considered to be an appropriate instrument for the study. The RQ is presented in Appendix A.

Relationship Scales Questionnaire (RSQ). The RSQ (Griffin & Bartholomew, 1994a) is a 30-item questionnaire made up of phrases from the paragraph descriptions of the attachment patterns created by Hazan and Shaver (1987) and Bartholomew and Horowitz (1991), and items from an instrument created by Collins and Read (1990). Respondents are asked to indicate on a 5-point scale the extent to which each item describes their feelings about close relationships. As for the RQ, RSQ items were reworded so that subjects reported feelings about their partner. For example, the item "I find it difficult to depend on other people", an item representing the fearful attachment pattern, was changed to read, "I find it difficult to depend on my partner". RSQ scores for the four attachment prototypes were the mean scores of items representing each prototype. The preoccupied and fearful patterns were each measured by four items, and scores on secure and dismissing prototypes were determined by five items each.

According to Griffin and Bartholomew (1994a) internal consistencies of the RSQ prototype scores vary, and are sometimes quite low; for example, in one sample coefficient alpha was .41 for secures and .70 for dismissing types. Griffin and Bartholomew have argued that this is to be expected because two orthogonal dimensions, model of self and model of other, are being combined in each prototype. They maintain that the low alphas are not a psychometric flaw. The RSQ was used in the present study as a second instrument to measure scores on the dependent variables model of self and model

of other determined from ratings on the four attachment prototypes. Because it is a more recent instrument than the RQ and has not been widely used, the results obtained from the RSQ were not intended to be the main findings, but a second measure with which to compare the RQ results. It was also of interest because it uses the multi-item approach to determining attachment ratings theoretically based on the same four prototypes as the RQ. Although the low internal consistency was considered to be a potential threat to the power of the investigation, the opportunity to measure the Bartholomew model with a second self-report measure was seen to outweigh these concerns. It was anticipated that the multi-item instrument, the RSQ, could provide higher test-retest correlations, when compared to the RQ. A copy of the RSQ is presented in Appendix B.

Marital Satisfaction

The Dyadic Adjustment Scale (DAS). The DAS (Spanier, 1976) is a widely used self-report measure of marital adjustment. It is composed of 32 items designed to assess levels of satisfaction, cohesion, affection, and dyadic consensus in a couple relationship. Many items are rated on according to frequency of occurrence, scored on a Likert scale. The possible range of scores is 0 to 151, with higher scores indicating greater relationship satisfaction. Each partner is assigned an individual score. A couple score can be obtained by averaging the scores of the two partners.

Spanier (1976) reported satisfactory overall reliability (coefficient alpha = .96) for the DAS. Reliability coefficients of the subscales ranged from .73 to .94. Criterion validity was investigated by comparing scores of a sample of married couples with those of a sample of couples who had divorced. Analyses determined that scores on each item of the

DAS differed significantly for each sample. In addition, mean total scale scores differed at the .001 significance level for the married and divorced samples. According to Spanier (1976), the mean score for married couples is 114.8, and 70.7 for those seeking divorce. The DAS distinguishes distressed couples seeking marital therapy or subsequent divorce from those who are non-distressed. For research purposes the distress cut-off score is 97, one standard deviation below the mean for the married sample. A copy of the DAS is presented in Appendix C.

Life Events

The Life Experiences Survey (LES). The LES (Sarason, Johnson, & Siegel, 1978) is a widely used 50-item (57 items for students) self-report measure designed to evaluate the impact of events which respondents have experienced over a given period, either 6 months or 1 year. Subjects are asked to indicate which of the itemized events they experienced and to rate the extent to which the event was positive or negative. Ratings are on a 7-point scale, from extremely negative (-3) to extremely positive (+3). A total change score is obtained by adding the values of the negative change rating and positive change rating. Test-retest correlations over 6 weeks were .53 for the positive change score, .88 for the negative change score and .64 for the total change score. Subsequent investigation of the LES has indicated that both negative ratings of events and overall ratings have predictive validity (Zuckerman, Oliver, Holly, & Harvey, 1986). The LES survey is presented in Appendix D.

Procedure

The first contact with couples who responded to the recruitment procedures was a

telephone interview with one of the partners, during which the general focus of the study was explained (see Appendix E). The person was told that the researcher was looking for couples who were committed to their relationship. However, when asked to express any concerns about the relationship, at least one partner would voice a concern about feeling that they could depend on their partner emotionally, or feel that they had difficulty meeting their partner's requests for emotional safety and/or closeness. The inclusion criteria were outlined and the design of the study, which involved random assignment of couples to treatment or control groups, was explained. The data collection timetable was also presented. It was explained that if the couple should be assigned to the control group, they would have the opportunity to receive the same EFT therapy through the Marital and Family Therapy Clinic at the Ottawa Civic Hospital once the data collection was completed. If the respondent continued to express interest in the study, an interview was set up for the couple. During the interview each partner talked about relationship concerns, completed a consent form (Appendix F), and filled out the pretreatment measures, which included a demographic questionnaire (Appendix G), the RQ, the RSQ, and the DAS. Couples who satisfied the criteria for the study were contacted and told to which group, treatment or control, they had been assigned. Those couples assigned to treatment were told they would be contacted by a therapist and a mutually convenient arrangement for the beginning of therapy would be agreed upon.

Data collection took place between January, 1997 and December, 1998. The data were collected in stages determined by the availability of the therapists. Recruitment of couples continued throughout the study. Of the 17 couples who were randomly assigned

to the treatment group over the time of the study, 15 accepted. Power analysis indicated that this was an acceptable number. Attempts to obtain the same number of couples for the control group proved more difficult. Of the couples assigned to the control group, three dropped out of the study between the first and second measurement periods because they separated, three entered therapy on their own initiative, three decided they were not interested in pursuing the study, and two did not return the second set of questionnaires after repeated promises to do so. Couples in the control group were replaced as long as the time for completion of the study, including time for collection of the third set of measures, allowed. Because recruitment was ongoing, random assignment opportunities existed throughout the study. By the end of the study, 11 couples had remained in the control group for the pre- and posttreatment comparison data collection.

For couples in treatment, posttreatment measures were completed at the end of the last therapy session. The 4-month follow-up questionnaires were mailed to the couples and returned through the mail. The control group couples came to the University of Ottawa to complete the second set of measures. They were mailed the third set and returned them by mail.

One couple in the treatment group and two couples in the control group did not complete the four-month follow-up measures. Their data were included in the analyses for the first two time periods, and were coded as missing for the third assessment. Thus there was an attrition rate of 1/15 and 2/11 for the treatment and control groups respectively between posttreatment and follow-up.

Therapists and Therapy

The therapy was carried out by eight therapists who were members of the Marital and Family Therapy Clinic at the Ottawa Civic Hospital. They had all been trained in EFT, and used EFT as their chosen couple therapy approach professionally. The therapists provided counselling services for the study on a voluntary basis. Most carried out the therapy at their own facilities. Some therapy was conducted at the Centre for Psychological Services at the University of Ottawa.

The therapy which the treatment couples received was EFT. The trained therapists met for supervision once a week while they were providing therapy to the couples in the study. Because of their expertise each therapist contributed significantly to the EFT process of the group, and cases were well supervised. One of the focuses of the supervision sessions was to ensure that attachment concerns were being addressed in the therapy.

Couples received a minimum of 15 sessions of EFT. Therapists were asked to use their clinical judgment about when therapy should be terminated, keeping the 15 session goal in mind. The number of sessions provided ranged from 15 to 22. The average number of sessions was 17.3.

Data Analyses

All statistical analyses were carried out using the SPSS 9.0 statistical package. The preliminary analyses are presented in four major steps: integrity of the treatment implementation; summary demographic data for the entire sample; data screening for univariate and multivariate outliers in the preliminary data; and the psychometric

properties of selected measures. Comparisons of the treatment and control groups on demographic and outcome variables at pretreatment are reported next. For continuous demographic and outcome variables, univariate and multivariate analyses of variance were used. For the categorical demographic variables chi-square analyses were performed.

The presentation of the main analyses will include a comparison of treatment and control groups on the outcome variables at two time assessments, at posttreatment and at 4-month follow-up. The analyses were carried out using standardized residual change scores. Change was assessed for pre- and posttreatment, and for pretreatment and follow-up. Multivariate analyses of variance (MANOVAs) were used for the attachment variables and univariate analyses of variance (ANOVAs) were used for the DAS scores.

MANOVAs using the standardized residual change scores for the attachment variables were first carried out using the RQ. Because pretreatment data analyses indicated gender differences on some outcome measures, analyses included gender as an independent variable. Analyses for model of self and model of other were performed with group by gender analyses. A second set of group by gender MANOVAs was performed with scores on the four continuous attachment prototype ratings, secure, avoidant-fearful, preoccupied, and avoidant-dismissing, as multiple dependent variables. These analyses were carried out for the two between-group comparisons, pre- With posttreatment and pretreatment with 4-month follow-up.

The above analyses were repeated using the RSQ to assess attachment, and will be presented after the results of analyses using the RQ.

Between-group analysis of change scores for the DAS was carried out using an

ANOVA, with the standardized residual change scores between pre- and posttreatment as the data of the analysis. The analysis was repeated for the pretreatment to follow-up change. Lack of significant group differences led to a subsequent analysis where a simultaneous multivariate regression was carried out to investigate the ability of change in model of self and model of other to predict change in DAS scores.

Analysis of Power

Power analysis to determine the number of subjects required for the study was carried out. Considering two groups with two dependent variables, scores on model of self and model of other, a power analysis for a MANOVA with alpha .05, and a large effect size ($f^2 = .35$) established that 30 couples were required for the study, to obtain a power of .80. Thus, 15 couples per group was the target for the study.

Results

There were five stages to the data analysis. The first stage consisted of preliminary analyses investigating the accuracy of the data, the presence of univariate and multivariate outliers, the meeting of assumptions for analysis of variance, and the psychometric properties of outcome measures where appropriate. The second stage compared treatment and control groups on demographic and outcome variables at pretreatment. The third stage compared changes for the EFT and wait-list control groups on outcome measures over the pre- to posttreatment period. The fourth stage evaluated group differences in changes on the outcome measures from pretreatment to 4-month follow-up. Finally, additional analyses looked at the stability of attachment ratings for the control group, and investigated the impact of life experiences on outcome.

Preliminary Analyses

Integrity of the Treatment Implementation

The integrity of the treatment implementation was evaluated by two raters familiar with EFT. The raters listened to a ten-minute segment of two taped sessions, selected randomly from sessions 3 to 12, for each couple in treatment. They made separate global assessments regarding whether or not the therapist statements over the ten minutes were EFT statements. According to protocols outlined for EFT, 75% of therapist statements over the rating time interval should be EFT statements to indicate a faithful implementation of EFT. In this study, therapists rated more than 85% of evaluated statements as EFT statements for each taped section assessed. Percentages ranged from 86% to 94%. Non-EFT statements were mainly information-related, either asking for information or providing it to the couple.

Demographic Characteristics of the Sample

Of the 26 couples who completed the course of the study to the posttreatment stage, complete demographic data were available for 25. The couples had been living together for an average of 13.9 years, had an average age of 43.3 years, and an average of 2.4 children. Sixty per cent of the couples had received couples' counselling previously. Twenty-eight per cent of individual subjects had been previously married, and 74 per cent had completed at least one university or college degree. The family income of 78 per cent of the couples was more than \$55 000. The mean SES scores of males' occupations were 58.21 in the treatment group and 54.04 in the control group; the corresponding mean SES scores for females' occupations were 54.64 and 47.32, as assessed by a Canadian SES

index (Blishen, Carroll, & Moore, 1987). Based on this index, SES scores for professionals are 60 and above, for technical positions are between 50 and 59, and for clerical positions are between 40 and 49, in general.

Clinical Characteristics of the Sample

At the outset of the study, scores on the DAS ranged from 69 to 108. The sample mean was 89.2. The RQ ratings for the attachment prototypes ranged from a possible 1 to 7 for all prototypes. Means for the entire sample were: secure 3.4; avoidant-fearful 3.6; preoccupied 4.2; and avoidant-dismissing 2.9. In terms of the attachment classifications obtained by choosing the prototype with the highest rating for an individual, the categories for the sample included 8 secure persons, (13.5%), 13 avoidant-fearful (25%), 15 preoccupied (15%), 7 dismissing (13.5%), 5 with a double assignment of fearful and preoccupied (9.6%), 3 rated as secure and preoccupied (5.8%), and one with a rating of fearful and dismissing (1.9%). Couples were recruited on the basis that one partner in each couple show their highest attachment prototype rating for an insecure prototype, i.e., avoidant-fearful, preoccupied, or avoidant-dismissing. However, of the 26 couples in the study, 17 had both partners self-reporting an insecure rating as the highest. Nine of the fifteen treatment couples and eight of the eleven control couples had both partners registering their highest attachment score for an insecure prototype.

Data Screening

Data screening was carried out on the entire sample of 26 couples. The data were examined for accuracy of entry, missing data, and outliers. Next, preliminary analyses testing the assumptions of analysis of variance were done, namely, normality of sampling

distributions and homogeneity of variance. For the initial data, the only missing data were one set of demographic data for a couple in the control group and one set of DAS questionnaires for a couple in the treatment. Analyses on the demographic variables and on the DAS were performed with the data entered as missing. Z-scores were examined to detect the presence of univariate outliers. None were found. Using the Mahalanobis distance probability estimate of $p < .001$, no multivariate outliers were found for the pretreatment data.

Univariate normality was assessed with an evaluation of skewness and kurtosis. For the continuous variables, z-scores were evaluated by dividing the calculated level of skewness and kurtosis by their respective standard errors. No z-score approached the extreme value of + or -3.29, the values associated with a significance of $p = .001$, the significance level suggested by Tabachnick and Fidell (1996) for unacceptable skewness and kurtosis.

Analysis of Box's M test of homogeneity of the variance-covariance matrices within each cell for the dependent variables model of self and model of other showed no violation of the assumption with the RQ, $F(9, 18165) = .573, p > .001$, or with the RSQ, $F(9, 18165) = .690, p > .001$. The Box's M test for the four continuous attachment ratings at pretreatment showed no violation with the RQ, $F(30, 5247) = .896, p > .001$, or with the RSQ, $F(30, 5247) = .685, p > .001$. Levene's test of equality of error variances for the univariate DAS between-group analysis showed no violation of the assumption, $F(3, 46) = .312, p > .05$.

Psychometric Properties of the RQ and the RSQ

The RSQ, a multi-item measure, was assessed for internal consistency of its prototype scores at pretreatment. The alphas were low, but consistent with those reported by Griffin and Bartholomew (1994). As mentioned above, Griffin and Bartholomew have argued that the low internal consistencies on the prototypes are a result of combining two orthogonal dimensions, model of self and model of other. The alphas for the four prototypes in the present study were .43 for the secure rating, .64 for avoidant-fearful, .63 for preoccupied, and .79 for avoidant-dismissing. Griffin and Bartholomew (1994) reported a range for alphas on the RSQ from .41 for secure to .70 for dismissing. Ognibene and Collins (1998) have reported psychometric data for the RQ and a modified version of the RSQ in which they included an additional 11 items from the Collins and Read items in the questionnaire in order to improve reliability. Their reported alphas were .37 for the secure rating, .75 for avoidant-fearful, .72 for preoccupied, and .62 for avoidant-dismissing. Although there is not much psychometric information available for the RSQ, the alphas for the RSQ prototypes in the present study are comparable to those reported elsewhere. It is noteworthy that the alphas for the secure prototype are typically the lowest. It may be that for the secure category the individual statements which make up the prototype description are different enough that, when scored as separate items, the pattern of responses varies from person to person. It is interesting that the data presented by Ognibene and Collins, in which they added items to the RSQ in an attempt to improve reliability, still found the lowest alpha for the secure prototype.

In the present study, correlations between the corresponding attachment prototype

ratings on the RQ and RSQ at pretreatment ranged from .56 on the secure rating to .72 on the dismissing rating, indicating convergent validity between the measures. Consistent with the four-category model (see Figure 1), correlations between opposing attachment patterns secure and fearful were moderately large and negative, -.49 on the RQ and -.52 on the RSQ, at pretreatment. According to the four-category model, correlations between ratings on adjacent categories (e.g., secure and dismissing) should be close to zero (Griffin & Bartholomew, 1994). At pretreatment, correlations between the secure and dismissing categories were -.20 for the RQ, and -.24 for the RSQ. Finally, since the model of self and model of other are theorized to be orthogonal dimensions in the Bartholomew model, their correlation should be very low. For the RQ, the correlation was .02, and for the RSQ -.02.

Comparability of Groups at Pretreatment

Demographic Variables

For the continuous demographic variables of years living together, number of children, age, and occupation level, univariate analyses of variance were carried out comparing the treatment and control groups (see Table 2). Chi-square tests were performed for the categorical variables income category, education category, whether or not previously married, and whether the couple had received couples' counselling previously (see Table 3). Results for the continuous variables indicated that there were no significant group differences on the continuous demographic variables. Univariate analyses carried out for the variable age showed no significant group differences for males, $F(1, 23) = 3.23, p = .09, \eta^2 = .12$, or females, $F(1, 23) = 2.05, p = .17, \eta^2 = .08$. Univariate analyses carried out for the couple variable years together showed no significant group

Table 1

Correlations between Working Models and Attachment Prototypes at Pretreatment forMales and Females

Variables	1	2	3	4	5	6
Working models (RQ)						
1. Model of self	1.00	-.01	.74	-.75	-.75	.48
2. Model of other	-.23	1.00	.56	-.48	.37	-.55
Attachment prototypes (RQ)						
3. Secure	.13	.69	1.00	-.64	-.35	.04
4. Avoidant-fearful	-.58	-.47	-.18	1.00	.37	-.11
5. Preoccupied	-.70	.72	.29	.01	1.00	-.18
6. Avoidant-dismissing	.57	-.77	-.48	.04	-.58	1.00
Working models (RSQ)						
7. Model of Self	.72	-.20	-.08	-.51	-.50	.47
8. Model of Other	-.41	.88	.52	-.29	.79	-.73
Attachment prototypes (RSQ)						
9. Secure	-.11	.59	.61	-.14	.45	-.40
10. Avoidant-fearful	-.05	-.70	-.30	.69	-.44	.41
11. Preoccupied	-.59	.61	.24	.01	.79	-.54
12. Avoidant-dismissing	.50	-.73	-.52	.02	-.64	.79

Note. Males ($n = 26$) appear above diagonal; females ($n = 26$) appear below diagonal.

Correlations greater than .49 are significant at $p < .01$.

Table continues

Table 1 (continued)

Correlations between Working Models and Attachment Prototypes at Pretreatment forMales and Females

Measures	7	8	9	10	11	12
Working models (RQ)						
1. Model of self	.66	-.10	.37	-.34	-.42	.47
2. Model of other	-.10	.76	.25	-.54	.64	-.31
Attachment prototypes (RQ)						
3. Secure	.43	.35	.41	-.55	.09	.23
4. Avoidant-fearful	-.45	-.30	-.41	.52	.05	-.14
5. Preoccupied	-.55	.13	-.37	.16	.46	-.32
6. Avoidant-dismissing	.35	-.74	-.19	.26	-.66	.58
Working models (RSQ)						
7. Model of Self	1.00	-.07	.58	-.59	-.63	.63
8. Model of Other	-.28	1.00	.58	-.53	.64	-.56
Attachment prototypes (RSQ)						
9. Secure	.17	.63	1.00	-.40	.06	.10
10. Avoidant-fearful	-.27	-.77	-.41	1.00	.09	.01
11. Preoccupied	-.64	.74	.32	-.33	1.00	-.41
12. Avoidant-dismissing	.50	-.82	-.39	.50	-.48	1.00

Note. Males ($n = 26$) appear above diagonal; females ($n = 26$) appear below diagonal.

Correlations greater than .49 are significant at $p < .01$.

Table 2

Means and Standard Deviations for Treatment and Control Groups on
Demographic Variables at Pretreatment

Variable	Treatment		Control	
	Mean	SD	Mean	SD
Females' age	40.80	6.46	45.40	9.65
Males' age	41.33	6.22	47.80	11.76
Years together	11.53	6.55	17.45	9.49
Number of children	2.40	1.45	2.45	1.93
Females' occupation	54.64	16.27	47.32	13.77
Males' occupation	58.21	15.97	54.04	9.03

Note. Treatment group $n = 15$ couples; control group $n = 10$ couples.

Table 3

Numbers in Treatment and Control Groups for Demographic Variablesat Pretreatment

Variable	Treatment	Control
Family Income		
Up to \$55,000	4	2
Over \$55,000	11	8
Females' Education		
High School	3	6
College or undergraduate	8	4
Graduate degree	4	--
Males' Education		
High school	3	1
College or undergraduate	7	7
Graduate degree	5	2

Note. Treatment group $n = 15$ couples; control group $n = 10$ couples.

differences, $F(1, 23) = 3.42, p = .08, \eta^2 = .13$. The chi-square tests determined that there were no significant group differences for the categorical variables.

Outcome Variables

Pretreatment comparisons of outcome variables were carried out using multivariate analyses of variance. Because gender differences in attachment variables have been found in some attachment studies (e.g., Bartholomew & Horowitz, 1991; Feeney, 1998) preliminary analyses were performed for males and females using group by gender between-subjects MANOVAs. Analyses were carried out using the RQ and the RSQ. The first set of analyses involved the dependent variables model of self and model of other, using the RQ (see Table 4). A 2x2 between-subjects MANOVA for scores on the RQ showed no interaction effects, but a significant multivariate main effect for gender, $F(2, 47) = 8.53, p < .005, \eta^2 = .27$, which is a large effect size. Subsequent univariate analyses indicated main effects of gender for model of other, $F(1, 48) = 9.48, p < .005, \eta^2 = .17$, and model of self, $F(1, 48) = 6.53, p < .05, \eta^2 = .12$. For both model of other and model of self, males had significantly higher scores. The next analyses for scores on the RQ were carried out with the four continuous ratings of attachment prototypes, secure, avoidant-fearful, preoccupied, and avoidant-dismissing, as dependent variables. A 2x2 between-subjects MANOVA showed no interaction effects, and a significant multivariate main effect for gender, $F(4, 45) = 4.67, p < .005, \eta^2 = .29$. Subsequent univariate analyses indicated main effects of gender for the avoidant-fearful rating, $F(1, 48) = 17.53, p < .001, \eta^2 = .27$, and the secure rating, $F(1, 48) = 7.13, p < .05, \eta^2 = .13$. Females had significantly higher scores on the avoidant-fearful rating, and males had significantly higher

scores on the secure prototype.

The above group by gender analyses were repeated for pretreatment attachment variables measured with the RSQ (see Table 4). A 2x2 between-subjects MANOVA with model of self and model of other as dependent variables showed no interaction effects, and a significant multivariate main effect for gender, $F(2, 47) = 9.93, p < .001, \eta^2 = .30$. Subsequent univariate analyses obtained a main effect of gender for model of other, $F(1, 48) = 13.10, p < .005, \eta^2 = .21$. Gender differences for model of self approached significance, $F(1, 48) = 3.80, p = .057$. For both model of other and model of self, males had higher mean scores. Multivariate between-subject analyses of scores for the four continuous ratings of attachment prototypes, secure, avoidant-fearful, preoccupied, and avoidant-dismissing, as dependent variables were repeated. A 2x2 MANOVA showed no interaction effects, and a significant multivariate main effect for gender, $F(4, 45) = 5.39, p < .005, \eta^2 = .32$. Subsequent univariate analyses found main effects of gender for the avoidant-fearful rating, $F(1, 48) = 15.71, p < .001, \eta^2 = .24$, the secure rating, $F(1, 48) = 12.27, p < .005, \eta^2 = .20$, and the avoidant-dismissing prototype, $F(1, 48) = 5.34, p < .05, \eta^2 = .10$. Females had significantly higher scores on the avoidant-fearful and avoidant-dismissing ratings, and males had significantly higher scores on the secure prototype.

A group by gender ANOVA was carried out for the DAS at pretreatment. No effects for group nor gender were found (see Table 4).

A chi-square analysis for the treatment and control groups for the number of two-insecurely rated partners per couple at pretreatment did not show a significant difference

Table 4

Means and Standard Deviations for Treatment and Control Groups on Outcome Variables at Pretreatment for Females and Males

Variable	Treatment		Control	
	Females	Males	Females	Males
Working models (RQ)				
1. Model of self	-3.60 (3.92)	.67 (4.76)	-2.73 (3.61)	-.91 (4.48)
2. Model of other	.80 (4.63)	1.73 (3.15)	-2.18 (4.81)	3.82 (3.19)
Attachment prototypes (RQ)				
3. Secure	3.00 (1.69)	3.73 (1.58)	2.45 (1.37)	4.18 (1.89)
4. Avoidant-fearful	4.40 (1.96)	2.53 (1.51)	4.91 (1.97)	2.73 (1.35)
5. Preoccupied	4.60 (1.80)	3.67 (1.80)	3.73 (2.33)	4.91 (2.21)
6. Avoidant-dismissing	2.40 (1.77)	3.13 (1.81)	3.46 (1.64)	2.55 (1.37)

Note. Values in parentheses represent standard deviations. Treatment group $n = 15$

couples; control group $n = 10$ couples.

Table continues

Table 4 (continued)

Means and Standard Deviations for Treatment and Control Groups on Outcome Variables at Pretreatment for Females and Males

Variable	Treatment		Control	
	Females	Males	Females	Males
Working models (RSQ)				
7. Model of Self	-.52 (1.29)	.70 (1.74)	-.72 (1.31)	-.36 (1.31)
8. Model of Other	.93 (2.39)	2.62 (1.54)	.32 (2.17)	2.65 (1.67)
Attachment prototypes (RSQ)				
9. Secure	2.97 (.48)	3.63 (.66)	2.71 (.41)	3.15 (.61)
10. Avoidant-fearful	2.77 (.90)	1.97 (.71)	2.91 (.84)	2.00 (.52)
11. Preoccupied	3.55 (.79)	3.40 (.69)	3.52 (.97)	3.91 (.75)
12. Avoidant-dismissing	2.83 (.91)	2.44 (.66)	3.00 (.77)	2.40 (.64)
Dyadic Adjustment Scale	90.07 ^a (10.15)	91.71 ^a (10.74)	84.73 (9.03)	89.18 (9.76)

Note. Values in parentheses represent standard deviations. Treatment group $n = 15$ couples; control group $n = 10$ couples.

^a Treatment group $n = 14$ couples.

between the groups.

The above analyses determined that treatment and control groups were equivalent at pretreatment on all demographic and outcome variables. It can be concluded that the randomization procedure was successful. Gender differences were found, however, on several of the outcome variables. It was therefore decided to carry out subsequent analyses on the attachment outcome measures with gender as an independent variable.

Comparison of Pretreatment and Posttreatment Measures for Treatment and Control Groups

Conceptual and Statistical Issues

There were two statistical issues of concern with the data in this study. The first was the analysis of change scores, which has been a concern in developmental and clinical research for many years (e.g., Cronbach & Furby, 1970). In order to avoid the difficulties associated with the simple difference score approach, which include low reliability of the difference scores (Cronbach & Furby, 1970) and negative correlation between initial and change scores (Linn & Slinde, 1977), standardized residual change scores were used. This approach has been recommended by Cronbach and Furby (1970), and more recently by Hauser-Cram and Krauss (1991). Although some statistical writers (e.g., Stevens, 1992) recommend analysis of covariance (ANCOVA) when analyzing repeated measures there are statistical merits to the residual approach. If residualized scores are calculated using the regression coefficient for the total sample combined into one group, rather than the within-group regression coefficient, the subsequent analysis of variance is a more conservative test of group differences than ANCOVA (Maxwell, Delaney, & Manheimer,

1985). When using multivariate analyses, residual change scores are more specific because the residualization is performed on individual dependent variables as opposed to a linear combination of them, as in multivariate analyses of covariance.

Because some debate exists regarding the relative merits of (M)ANCOVA and analysis of residual change scores, investigations of the hypotheses were carried out with both methods. Results were the same for each method. The results will be reported using standardized residual change scores.

The second concern with the pre- posttreatment analyses related to the fact that subjects were part of a pair, and thus it was possible that intraclass correlations would affect the significance level of analyses (Kenny, 1995; Stevens, 1992). In order to investigate this possibility, analyses were carried out on the standardized residual change scores between pre- and posttest for model of self and other using a pairwise analysis of variance (see, e.g., Gonzalez & Griffin, 1997). Analyses were repeated treating subject scores as independent. A comparison of results for individual and pairwise analyses determined that they were the same with either method. Because the hypotheses were formulated in terms of change in an individual's working models, it was decided to proceed with analyses treating the scores independently.

Main Analyses

Attachment analyses using the RQ. The analyses of pre- to posttreatment change in the dependent variables model of self and model of other, and subsequent analyses with the four attachment prototype continuous ratings as dependent variables, were carried out first for the RQ (Table 5). In order to determine whether the treatment group showed

significantly greater improvement than the control group on model of self, the entire sample was first split into males and females because of the differences in male and female scores for model of self at pretreatment. For each gender separately, and using the entire sample of each gender, scores on model of self at pre- and posttreatment were standardized and the posttreatment scores were regressed on the pretreatment scores. This procedure was repeated for pre- and posttreatment model of other scores. With the standardized residual change scores for model of self and model of other as dependent variables, a 2x2 between-subjects group by gender MANOVA was carried out (Table 6). Using the Wilks' criterion there was a significant multivariate main effect for group, $F(2, 47) = 5.34, p < .01, \eta^2 = .19$, a large effect size. The observed power for this analysis was .82. Subsequent univariate analyses indicated a significant main effect of group for model of self, $F(1, 48) = 10.66, p < .005, \eta^2 = .18$, observed power .89. The positive mean of the residuals for the treatment group and negative mean of the residuals for the control group indicate that the treatment group showed significantly greater improvement in model of self from pre- to posttreatment than the waitlist controls.

In order to investigate how attachment prototype ratings were influencing the changes in model of self, analyses were carried out with the four continuous ratings of attachment prototypes, secure, avoidant-fearful, preoccupied, and avoidant-dismissing, as dependent variables. A 2x2 between-subjects MANOVA showed a significant multivariate main effect for group, $F(4, 45) = 2.57, p = .05, \eta^2 = .19$ using the Wilks' criterion. The observed power was .68. Subsequent univariate analyses indicated main effects of group for the preoccupied rating, $F(1, 48) = 7.36, p < .01, \eta^2 = .13$, and the avoidant-fearful

Table 5

Means and Standard Deviations for Treatment and Control Groups on the RQ and DAS
at Pre- and Post-treatment

Variable	Treatment		Control	
	Pre	Post	Pre	Post
Working models (RQ)				
Model of self	-1.47 (4.81)	.83 (3.86)	-1.81 (4.08)	-2.55 (4.08)
Model of other	1.27 (3.92)	2.70 (3.74)	.81 (5.03)	1.91 (4.98)
Attachment prototypes (RQ)				
Secure	3.36 (1.65)	4.40 (1.54)	3.32 (1.84)	3.50 (1.87)
Avoidant-fearful	3.47 (1.96)	2.63 (1.92)	3.82 (1.99)	3.82 (1.84)
Preoccupied	4.13 (1.83)	3.23 (1.81)	4.32 (2.30)	4.59 (2.04)
Avoidant-dismissing	2.77 (1.79)	2.30 (1.24)	3.00 (1.54)	2.36 (1.53)
Dyadic Adjustment Scale	90.89 (10.29)	97.94 (16.63)	86.95 (9.45)	91.64 (15.80)

Note. Values in parentheses represent standard deviations. Treatment group $n = 30$;
control group $n = 22$.

Table 6

Means and Standard Deviations of Standardized Residual Change Scores for Treatment and Control Groups on the RQ and DAS at Pre- and Post-treatment

Variable	Treatment		Control	
	Mean	SD	Mean	SD
Working models (RQ)				
Model of self	.346	.860	-.472	.927
Model of other	.012	.976	-.015	.985
Attachment prototypes (RQ)				
Secure	.226	.858	-.308	1.047
Avoidant-fearful	-.258	1.010	.352	.808
Preoccupied	-.297	.963	.405	.841
Avoidant-dismissing	.025	.886	-.034	1.095
Dyadic Adjustment Scale	.116 ^a	1.118	-.147	.799

Note. Treatment Group $n = 30$; Control group $n = 22$.

^a $n = 28$.

rating, $F(1,48) = 5.26, p < .05, \eta^2 = .10$. Group differences for the secure rating met significance, $F(1, 48) = 3.95, p = .05, \eta^2 = .08$. The negative means of the residuals for the treatment group and positive means of the residuals for the control group on the preoccupied and avoidant-fearful ratings indicate that the treatment group showed significantly greater reduction in ratings on these insecure attachment prototypes from pre- to posttreatment. The positive mean for the residuals for the treatment group, and associated negative mean of the residuals for the control group, indicate an improvement for the treatment group on ratings of secure attachment with respect to the controls from pre- to posttreatment.

Attachment analyses using the RSQ. The above analyses were repeated using the RSQ as an attachment measure (Table 7). The same procedures were performed on the pre- and posttreatment data to obtain standardized residual change scores. With the standardized residual change scores for model of self and model of other as dependent variables, a 2x2 between-subjects group by gender MANOVA was carried out (Table 8). Univariate analyses indicated a significant main effect of group for model of self, $F(1, 48) = 5.13, p < .05, \eta^2 = .10$, with the treatment group showing a significantly greater increase in the model of self from pre- to posttreatment than the control group. The observed power for this analysis was .60. A 2x2 between-subjects MANOVA with the four continuous ratings of attachment prototypes, showed a significant univariate main effect for group for the secure prototype, $F(1,48) = 7.91, p < .01, \eta^2 = .14$, observed power .79, and for the avoidant-fearful prototype, $F(1, 48) = 4.43, p < .05, \eta^2 = .08$, observed power, .54. The positive mean of the residuals for the treatment group and

negative mean of the residuals for the control group indicate an improvement for the treatment group on ratings of secure attachment with respect to the controls from pre- to posttreatment. The negative mean of the residuals for the treatment group and positive mean of the residuals for the control group on the avoidant-fearful rating indicate that the treatment group showed significantly greater reduction in ratings on this insecure attachment prototype from pre- to posttreatment.

DAS analyses. Analyses were carried out on the DAS with standardized residual change scores for pre- to posttreatment changes (Table 6). Because there were no gender effects for the pretreatment DAS scores the residuals were obtained by regressing scores for the entire sample without separating data into male and female groups. A between-groups univariate ANOVA for the standardized residual change scores from pre- to posttreatment showed no significant effect for group, indicating that neither group had improved significantly more than the other on the DAS.

RQ and DAS analyses. To investigate possible differences for the treatment and control groups in the connection between attachment and marital satisfaction, separate multiple regression analyses were carried out for the two groups. Residual change scores for model of self and other were entered as predictors of change in DAS scores from pre- to posttreatment in a simultaneous multiple regression. For the EFT group, the \underline{R} for regression was significantly different from zero, $F(2,25) = 13.91$, $p < .001$, with $\underline{R} = .73$, $\underline{R}^2 = .53$, and adjusted $\underline{R}^2 = .49$. The regression coefficient for changes in model of self from pre- to posttreatment differed significantly from zero ($p < .001$), as did the coefficient for the changes in model of other ($p < .05$). For the control group, the \underline{R} for

Table 7

Means and Standard Deviations for Treatment and Control Groups on the RSQ
at Pre- and Post-treatment

Variable	Treatment		Control	
	Pre	Post	Pre	Post
Working models (RSQ)				
Model of self	.09 (1.62)	.86 (1.42)	-.54 (1.29)	-.26 (1.64)
Model of other	1.78 (2.15)	2.26 (1.89)	1.49 (2.24)	1.49 (1.95)
Attachment prototypes (RSQ)				
Secure	3.30 (.66)	3.76 (.51)	2.93 (.56)	3.26 (.58)
Avoidant-fearful	2.37 (.90)	2.20 (.87)	2.46 (.83)	2.65 (.80)
Preoccupied	3.48 (.74)	3.18 (.61)	3.72 (.87)	3.52 (.85)
Avoidant-dismissing	2.63 (.81)	2.47 (.79)	2.70 (.76)	2.64 (.82)

Note. Values in parentheses represent standard deviations. Treatment group $n = 30$;
control group $n = 22$.

Table 8

Means and Standard Deviations of Standardized Residual Change Scores for Treatment and Control Groups on the RSQ at Pre- and Post-treatment

Variable	Treatment		Control	
	Mean	SD	Mean	SD
Working models (RSQ)				
Model of self	.254	.956	-.346	.898
Model of other	.165	.987	-.226	.920
Attachment prototypes (RSQ)				
Secure	.309	.897	-.421	.924
Avoidant-fearful	-.237	.980	.323	.877
Preoccupied	-.171	.922	.233	1.006
Avoidant-dismissing	-.090	1.000	.123	.937

Note. Treatment group $n = 30$; control group $n = 22$.

regression was not significantly different from zero. The residual change scores on the four attachment prototypes were entered as predictors of change in DAS scores from pre- to posttreatment in a simultaneous multiple regression. For the EFT group, the \underline{R} for regression was significantly different from zero after the standardized residual change scores for the four prototypes were entered into the equation, $\underline{F}(4,23) = 8.40$, $p < .001$, with $\underline{R} = .77$, $\underline{R}^2 = .59$, and adjusted $\underline{R}^2 = .52$. The regression coefficient for changes in secure ratings from pre- to posttreatment differed significantly from zero ($p < .01$), and the coefficient for the changes in avoidant-fearful rating approached significance ($p < .06$). For the control group, the \underline{R} for regression was not significantly different from zero. Because the avoidant-fearful prototype change scores approached significance, a stepwise regression was carried out for the EFT group with residual change scores on the four attachment prototypes entered as predictors of change in DAS scores from pre- to posttreatment. The \underline{R} for regression was significantly different from zero after the standardized residual change scores for the secure and avoidant-fearful prototypes were entered. After step 1, with residual change scores for the secure category in the equation, $\underline{R} = .70$, $\underline{R}^2 = .49$, and adjusted $\underline{R}^2 = .47$, $\underline{F}(1,26) = 24.92$, $p < .001$. After step 2, with residual change scores for the avoidant-fearful category added, $\underline{R} = .76$, $\underline{R}^2 = .58$, and adjusted $\underline{R}^2 = .54$, $\underline{F}(2,25) = 16.95$, $p < .001$.

Finally, regressions were carried out for males and females in the EFT group. Because of the small group size, changes in models of self and other were used as predictors of DAS change from pre- to posttreatment. For males, results of the multivariate simultaneous regression indicated that the \underline{R} for regression was significantly

different from zero after the standardized residual change scores for model of self and other were entered into the equation, $F(2,11) = 8.00$, $p < .01$, with $R = .77$, $R^2 = .59$, and adjusted $R^2 = .52$. The regression coefficient for changes in model of other from pre- to posttreatment differed significantly from zero ($p < .05$). For females, results of the multivariate simultaneous regression indicated that the R for regression was significantly different from zero after model of self and other residual change scores were entered into the equation, $F(2,11) = 8.07$, $p < .01$, with $R = .77$, $R^2 = .60$, and adjusted $R^2 = .52$. The regression coefficient for changes in model of self from pre- to posttreatment differed significantly from zero ($p < .005$). Stepwise regressions were carried out for the EFT group, for males and females separately, with residual change scores for the secure and avoidant-fearful prototypes entered as predictors of change in DAS scores from pre- to posttreatment. For males the R for regression was significantly different from zero after the residual change scores for the secure and avoidant-fearful prototypes were entered. After step 1, with residual change scores for the secure category in the equation, $R = .74$, $R^2 = .55$, and adjusted $R^2 = .51$, $F(1,12) = 14.74$, $p < .005$. After step 2, with residual change scores for the avoidant-fearful category added, $R = .82$, $R^2 = .68$, and adjusted $R^2 = .62$, $F(2,11) = 11.55$, $p < .005$. For females, only the secure variable entered the equation, $R = .65$, $R^2 = .43$, and adjusted $R^2 = .38$, $F(1,12) = 8.90$, $p = .01$.

In summary, the main finding for the DAS measure from pre- to post-treatment, using residual change scores, was that no significant differences were found between the treatment and control groups. Subsequent separate regression analyses for the two groups determined that improvement in DAS scores for the EFT group was predicted by

improvement in secure ratings, with improvement in avoidant-fearful ratings approaching significance. For the control group, improvement in DAS scores was not predicted by any attachment variables. Finally, when separate regression analyses were carried out for males and females in the EFT group, an increase in DAS scores was predicted by increases in model of other scores for males. For females an increase in DAS scores was predicted by increases in model of self. With respect to the attachment prototypes, changes in both secure and avoidant-fearful prototype ratings predicted change in DAS scores for males. For females, only changes in the secure ratings predicted improvement in DAS scores.

Comparison of Pretreatment and Four-Month Follow-up Measures
for Treatment and Control Groups

Main Analyses

Attachment analyses using the RQ. Analyses of pretreatment to follow-up change in the dependent variables model of self and model of other, and subsequent analyses with the four attachment prototype continuous ratings as dependent variables, were carried out first for the RQ (Table 9). The same procedure for obtaining standardized residual change scores was used, splitting the entire sample into males and females because of the differences in male and female scores for model of self at pretreatment. For each gender separately, and using the entire sample of each gender, scores on model of self at pretreatment and follow-up were standardized and the follow-up scores were regressed on the pretreatment scores. This procedure was repeated for pretreatment and follow-up model of other scores. With the standardized residual change scores for model of self and

Table 9

Means and Standard Deviations for Treatment and Control Groups on the RQ and DAS
at Pre-treatment and at a 4-month follow-up

Measures	Treatment		Control	
	Pre	4-month	Pre	4-month
Working models (RQ)				
Model of self	-1.47 (4.81)	-.33 (4.16)	-1.81 (4.08)	-1.55 (4.66)
Model of other	1.27 (3.92)	1.67 (3.76)	.81 (5.03)	1.46 (4.54)
Attachment prototypes (RQ)				
Secure	3.36 (1.65)	3.54 (1.60)	3.32 (1.84)	3.89 (1.81)
Avoidant-fearful	3.47 (1.96)	2.54 (1.58)	3.82 (1.99)	3.44 (1.89)
Preoccupied	4.13 (1.83)	3.61 (1.95)	4.32 (2.30)	3.83 (2.07)
Avoidant-dismissing	2.77 (1.79)	2.61 (1.66)	3.00 (1.54)	2.33 (1.41)
Dyadic Adjustment Scale	90.89 (10.29)	96.93 ^a (12.64)	86.95 (9.45)	92.28 (14.78)

Note. Values in parentheses represent standard deviations. Treatment group $n = 28$;

control group $n = 18$.

^a $n = 26$.

Table 10

Means and Standard Deviations of Standardized Residual Change Scores for Treatment and Control Groups on the RQ and DAS at Pre-treatment and at 4-month follow-up

Variable	Treatment		Control	
	Mean	SD	Mean	SD
Working models (RQ)				
Model of self	.079	.913	-.122	1.058
Model of other	-.091	.909	.142	1.059
Attachment prototypes (RQ)				
Secure	-.104	.826	.161	1.159
Avoidant-fearful	-.194	.889	.302	1.026
Preoccupied	-.073	1.016	.113	.899
Avoidant-dismissing	.136	.944	-.211	.989
Dyadic Adjustment Scale	.101 ^a	.968	-.146	1.027

Note. Treatment group $n = 28$; control group $n = 18$.

^a $n = 26$.

model of other as dependent variables, a 2x2 between-subjects group by gender MANOVA was carried out (Table 10). No multivariate or univariate effects were found for group or gender. A 2x2 between-subjects group by gender MANOVA with the standardized residual change scores for the four attachment prototype ratings showed a significant multivariate effect for group, $F(4, 39) = 2.91, p < .05, \eta^2 = .23$ using Pillai's criterion, which is recommended for groups of unequal size (Tabachnick & Fidell, 1996). When univariate effects were examined there was no significant main effect for group on any of the variables.

In order to determine whether the lack of significant differences between groups in change scores from pre-treatment to follow-up was a result of gains in scores by the control group from posttreatment to follow-up or loss of previous gains by the treatment group, trend analyses were carried out separately for each group over the three data collection times. Variables in the analyses were scores on the three attachment prototypes found to show group differences from pre to posttreatment using the RQ. Combining the shape of the curve determined by trend analysis (Keppel, 1982) with the means at the three assessment times provides information about the pattern of scores over the course of the experiment. For the EFT group, results showed significant trends for each of the three attachment prototypes. Scores on the secure prototype for the three assessments showed a significant quadratic trend, $F(1,27) = 14.38, p = .001$. Corresponding means at the three times were 3.37, 4.40, and 3.54. Scores on the avoidant-fearful prototype showed both a significant quadratic trend, $F(1,27) = 5.55, p = .026$, and a significant linear trend, $F(1,27) = 4.73, p = .039$. Means were 3.47, 2.63, and 2.54 for the three assessments. A

significant quadratic trend was also found for the EFT group on the preoccupied prototype, $F(1,27) = 4.49, p = .044$, with means 4.13, 3.23, and 3.61 at the three time assessments. With a corrected alpha level of .02, only the quadratic trend for the secure prototype maintained significance. Parallel analyses for the control group indicated no significant trends. These significant and near-significant quadratic trends indicate that overall, the effects obtained for the treatment group at posttreatment resulted from improvement in ratings on the attachment measures, which were not sustained at follow-up.

Attachment analyses using the RSQ. Analyses were repeated using the multi-item measure, the RSQ (Table 11). With the standardized residual change scores from pretreatment to follow-up for model of self and model of other as dependent variables, a 2x2 between-subjects group by gender MANOVA was carried out (Table 12). No multivariate or univariate effects were found for group. Multivariate analyses were carried out as above for the four attachment ratings. There were no significant multivariate or univariate main effects for group on the pretreatment to follow-up residuals as measured by the RSQ.

DAS analyses. A between-groups univariate ANOVA for the standardized residual change scores from pretreatment to 4-month follow-up showed no significant effect for group (Table 10).

DAS and RQ analyses. Separate multiple regression analyses were carried out for the EFT and control groups to investigate the possibility of group differences in the relation between changes in attachment and marital satisfaction from pretreatment to

follow-up. Residual change scores for model of self and other were entered as predictors of change in DAS scores from pretreatment to follow-up in a simultaneous multiple regression. For the EFT group, the R for regression was significantly different from zero, $F(2,23) = 7.18$, $p < .005$, with $R = .62$, $R^2 = .38$, and adjusted $R^2 = .33$. The regression coefficient for changes in model of self from pretreatment to follow-up differed significantly from zero ($p = .001$). For the control group, the R for regression was not significantly different from zero. The residual change scores from pretreatment to follow-up for the four attachment prototypes were entered as predictors of change in DAS scores, using the simultaneous multiple regression method. For the EFT group, the R for regression was significantly different from zero after the standardized residual change scores for the four prototypes were entered into the equation, $F(4,21) = 4.57$, $p < .01$, with $R = .68$, $R^2 = .47$, and adjusted $R^2 = .36$. The regression coefficient for changes in secure ratings from pretreatment to follow-up differed significantly from zero ($p < .01$). For the control group, the R for regression was not significantly different from zero. In regression analyses carried out separately for males and females in the EFT group, neither changes in model of self or other from pretreatment to follow-up predicted change in DAS scores.

Additional Analyses

RQ and RSQ Test-retest Correlations for the Control Group

In order to investigate changes in the control group over time, correlations were calculated for the control group on the RQ and the RSQ at the three measurement times. Correlations on the RQ for pre- and posttreatment were .40 for the secure rating, .65 for

Table 11

Means and Standard Deviations for Treatment and Control Groups on the RSQat Pre-treatment and a 4-month follow-up

Variable	Treatment		Control	
	Pre	4-month	Pre	4-month
Working models (RSQ)				
Model of self	.09 (1.62)	.48 (1.92)	-.54 (1.29)	-.25 (1.57)
Model of other	1.78 (2.15)	1.89 (2.04)	1.49 (2.24)	1.53 (2.34)
Attachment prototypes (RSQ)				
Secure	3.30 (.66)	3.45 (.58)	2.93 (.56)	3.28 (.66)
Avoidant-fearful	2.37 (.90)	2.18 (.79)	2.46 (.83)	2.44 (.87)
Preoccupied	3.48 (.74)	3.23 (.90)	3.72 (.87)	3.38 (.78)
Avoidant-dismissing	2.63 (.81)	2.51 (.81)	2.70 (.76)	2.65 (.86)

Note. Values in parentheses represent standard deviations. Treatment group $n = 28$;

control group $n = 18$.

Table 12

Means and Standard Deviations of Standardized Residual Change Scores for Treatment and Control Groups on the RSQ at Pre-treatment and 4-month follow-up

Variable	Treatment		Control	
	Mean	SD	Mean	SD
Working models (RSQ)				
Model of self	.068	1.061	-.106	.814
Model of other	-.019	.934	.029	1.041
Attachment prototypes (RSQ)				
Secure	.031	.914	-.050	1.072
Avoidant-fearful	-.122	.847	.202	1.133
Preoccupied	-.046	1.167	.076	.511
Avoidant-dismissing	.006	1.054	-.010	.829

Note. Treatment group $n = 28$; control group $n = 18$.

the avoidant-fearful rating, .61 for the preoccupied rating, and .48 for dismissing. Correlations for model of self and other were .38 and .77, respectively. From pretreatment to follow-up eight months later, the correlations were .22 for secure, .36 for avoidant-fearful, .43 for preoccupied, and .55 for dismissing. The correlations from pretreatment to follow-up were .07 for model of self and .69 for model of other. Bartholomew (Scharfe & Bartholomew, 1994) reported correlations over a 2-month interval of .71 for secure, .64 for fearful, .59 for preoccupied, and .49 for dismissing for the RQ. However, over an 8 month period, Scharfe and Bartholomew (1994) have reported test-retest correlations ranging from .39 on the secure rating to .58 on the avoidant-fearful rating, comparable to the present findings.

For the RSQ, correlations for pre- and posttreatment ratings were .35 for secure, .74 for avoidant-fearful, .85 for preoccupied, and .81 for dismissing. Correlations for model of self and other were .67 and .77, respectively. From pretreatment to follow-up eight months later, the correlations were .46 for secure, .38 for avoidant-fearful, .89 for preoccupied, and .85 for dismissing. The correlations from pretreatment to follow-up were .28 for model of self and .81 for model of other.

The correlations obtained for the control group indicate that, over time, attachment ratings can be quite labile. In this study the ratings are with respect to the particular partner. These couples have indicated that they are distressed, and thus subject to relational events over the waiting period. However, the higher test-retest correlations determined with the RSQ, a multi-item measure, suggest that instrumentation characteristics are also at play in the findings.

The Life Experiences Survey

A univariate ANOVA for total scores on the LES indicated a significant effect for group, $F(1, 35) = 5.26, p < .05$, with the control group reporting a significantly lower mean. Thus, at the 4-month follow-up, couples in the control group, on average, rated life experiences of greater negative impact over the course of the study. Regression analyses for the control group were carried out to determine whether scores on the LES predicted changes in attachment variables from pretreatment to follow-up. Results indicated that, for the control group, ratings on the LES did not predict change in attachment ratings from pretreatment to 4-month follow-up.

Summary of Results

Results of the data analyses can be summarized as follows. As a group, couples who received EFT demonstrated significantly greater positive change in model of self than couples in the waitlist control group from pre- to posttreatment. There was no significant difference between the groups on the model of other over the same period. The findings were the same for the dependent variables whether measured with the RQ or the RSQ, although the effect size was larger with the RQ. With respect to continuous ratings on the four attachment prototypes from pre- to posttreatment, results with the RQ indicated that, as a group, couples receiving EFT showed a significantly greater decrease in scores on the preoccupied and avoidant-fearful prototypes than the control group, and a significantly greater increase in secure ratings. The largest effect was found for the preoccupied rating, followed by changes in the fearful rating. Analyses using the RSQ produced somewhat

different results. The RSQ showed significant findings for improvement in the secure and avoidant-fearful ratings for the treatment group, with changes in the secure rating showing the larger effect size. Analyses with the RSQ did not demonstrate a significant group difference for changes in the preoccupied ratings from pre- to posttreatment.

Analyses of change on attachment variables from pretreatment to 4-month follow-up indicated that the differences between the treatment and control groups were not sustained. There were no significant group differences on the models of self and other, nor on any of the four prototype ratings with either the RQ or the RSQ.

With respect to the DAS there were no group differences in change scores from pre- to posttreatment, nor from pretreatment to 4-month follow-up. Separate multiple regressions for the two groups from pre- to posttreatment indicated that improvement in DAS scores for the EFT group was strongly predicted by increases in ratings for the secure prototype. Changes in avoidant-fearful ratings approached significance in predicting DAS improvement for the EFT group. For the control group the regression analysis produced insignificant results. Regression analyses for the EFT and control groups from pretreatment to follow-up indicated that, for the EFT group, improvement in DAS scores was predicted by an increase in secure ratings. Results for the control group were insignificant. Finally, pre- to posttreatment analyses carried out with the EFT group for males and females separately found that, whereas increases in DAS scores for males were predicted by increases in model of other, corresponding increases in DAS scores for females were predicted by increases in model of self.

Discussion

The present study undertook to investigate whether a course of EFT could improve the attachment dimensions model of self and model of other as formulated by Bartholomew and Horowitz (1991). The experimental design, in which couples were randomly assigned to a treatment or wait-list control group, was used to determine whether couples receiving treatment would improve significantly more than comparable couples who did not receive EFT. Couples were measured on the RQ, a four-category paragraph self-report measure of attachment prototypes, and the RSQ, a multi-item questionnaire which also provides ratings for the four prototypes. From ratings on the four attachment prototypes, scores on the model of self and other were obtained. In this study the attachment ratings were taken with respect to the partner, and thus the models of self and other, along with the four prototypes, are specific to the partner, in contrast to the usual attachment measures, which refer to general self and other circumstances.

Hypotheses

The first hypothesis predicted that individuals receiving EFT would show a significantly greater improvement in model of self, from pre- to posttreatment, than persons in the wait-list condition. This hypothesis was supported by the findings for both attachment instruments, the RQ and the RSQ. Couples in the treatment group were found to have significantly greater change scores on model of self. These scores changed in a positive direction. Since the measures were targeted to the specific partner, the interpretation of these results must be considered with that in mind. In the theoretical formulation of model of self as considering oneself worthy of being loved, the results

could be seen in a general way to represent an improvement in the belief that one is of value to the partner. In therapeutic terms this change would be considered clinically important. From an EFT perspective an improved sense of being of value to the other would likely encourage that partner to engage more in couple interactions, and to be less protective of the self. The model of self is also theorized to reflect the extent to which one experiences anxiety, self-doubt, and dependency in close relationships (Bartholomew, 1993; Griffin & Bartholomew, 1994b), so that a move toward a more positive sense of self should reflect reduced anxiety and more confidence and autonomy in the relationship. These changes would be viewed as beneficial to both the person and the relationship.

Because the scores for model of self are calculated from the ratings on the attachment prototypes, a more specific picture of how the model of self has changed can be obtained from looking at the group changes in these prototype ratings. Consideration of the attachment prototype ratings will be carried out in the section discussing the third hypothesis.

The second hypothesis predicted that individuals receiving EFT would show a significantly greater improvement in model of other, from pre- to posttreatment, than persons in the wait-list condition. This hypothesis was not supported by the findings. No significant difference was found for the change scores for model of other between the EFT and control group with either attachment measure. It should be pointed out that the lack of significant findings was not a result of low power, as might be expected in a study of this sample size. The effect size for tests of group differences in the pre-posttreatment residualized change scores for model of other was zero for the RQ and .04 for the RSQ, a

small value for η^2 , indicating that an increase in sample size would not produce a different outcome.

The third hypothesis predicted that there would be significantly greater improvement in the ratings on the four attachment prototypes for the EFT group than for the wait-list control group from pre- to posttreatment. There was substantial support for this hypothesis. Considering results with the RQ, scores on the preoccupied and avoidant-fearful prototypes decreased significantly more for the EFT group than for the wait-list control group, and scores on the secure prototype increased significantly more for the EFT group. Thus, there were significantly greater improvements in three of the four ratings for the group receiving EFT. With the multi-item RSQ measure, scores on the secure prototype increased significantly more for the EFT group, and scores on the avoidant-fearful prototype decreased significantly more.

These results provide insight into the outcomes of the first two hypotheses. In the Bartholomew formulation of underlying attachment dimensions, individual scores for model of self are calculated according to the formula:

$$\text{model of self} = (\text{secure} + \text{dismissing}) - (\text{fearful} + \text{preoccupied}).$$

Inspection of the means at pre- and posttreatment for the two groups on the RQ (Table 5) indicates that model of self for the EFT group increased because of improvements in three categories, namely, an increase in secure scores, and a decrease in fearful and preoccupied scores. For the control group, over the same time period there was a smaller increase in secure scores, a minimal decrease in fearful scores, and an increase in preoccupied scores. Both groups showed comparable decreases in dismissing scores. Thus, the significantly

greater improvement for the EFT group on three of the four attachment prototypes translated into a significantly greater positivity in the model of self, the change predicted by the first hypothesis.

For the model of other the situation is more complex with the present results. The formula for the model of other is:

$$\text{Model of other} = (\text{secure} + \text{preoccupied}) - (\text{fearful} + \text{dismissing}).$$

Considering the pre- and posttreatment means on the RQ (see Table 5), a picture emerges in which the EFT group showed an increase in secure scores and a decrease in preoccupied scores. Mathematically, the improvement (decrease) in the preoccupied scores is countering the effect of the increase in the secure scores so that the increase in the numerical value of the first parentheses from pre- to posttreatment does not reflect the clinical improvement of the EFT group. Although findings indicate a reduction in avoidant-fearful scores, it appears that a considerable decrease in dismissing scores would be required to obtain a significant effect for the model of other. A comparison of results of the RQ and RSQ MANOVAs for residual change scores from pre- to posttreatment highlights this situation. Results indicate that a test of the null hypothesis for group differences in model of other came closer to significance for the RSQ, the instrument for which no significant group differences in change scores were detected for the preoccupied prototype. For the RSQ, the between-group univariate test of model of other showed a probability of $p = .16$, $\eta^2 = .04$, whereas for the RQ the probability was $p = .93$, $\eta^2 < .001$. In other words, the measure on which no group differences in improvement on preoccupied ratings were found came closer to detecting a significant result for model of

other. Thus, a clinically important improvement, reduction in preoccupied rating, actually reduced the calculated improvement effect for model of other in the absence of a comparable decrease for the dismissing prototype.

The fourth hypothesis predicted that the group receiving EFT would show significantly greater improvement in marital satisfaction, as measured by the DAS, than the wait-list control, from pre- to posttreatment. There was no support for this hypothesis. Analyses using residual change scores determined that there were no group differences in the amount of change over the time interval.

Separate multiple regression analyses for treatment and control groups using the residual change scores on the four attachment prototypes as predictors of change in DAS scores from pre- to posttreatment showed different underlying processes. For the EFT group, improvement in DAS scores was strongly predicted by changes in secure ratings. Changes in avoidant-fearful ratings approached significance. A stepwise regression showed that improvement in both secure and avoidant-fearful ratings predicted change. For the control group, changes in any of the four attachment prototypes were not found to predict changes in DAS scores. Thus, for the EFT group, improvement in the secure category was the greatest predictor of improved marital satisfaction. A decrease in the fearful rating was also related to an increase in DAS scores. In contrast, changes in attachment ratings were not related to change in DAS scores for the control group.

Multiple regressions carried out separately for males and females in the EFT group provided further information. For males, a simultaneous multiple regression analysis with residual change scores from pre- to posttreatment for the model of self and model of other

as predictors of change in DAS scores determined that improvement in model of other contributed to an improvement in DAS scores. For females, however, increase in model of self scores predicted an increase in DAS scores. These findings differ from those of Feeney (1994) using the Collins and Read (1990) attachment dimensions, where the anxiety dimension (argued to correspond to the model of self in the Bartholomew model) predicted marital satisfaction for both genders, and the closeness dimension (seen to be parallel to model of other) predicted marital satisfaction for the females. These findings indicate that, although for the EFT group as a whole, increase in the secure prototype rating and decrease in avoidant-fearful ratings were strong predictors of improvement in the DAS, males and females were not changing in the same way. Indeed, further analyses showed that, whereas for males, both secure and avoidant-fearful change predicted increased marital satisfaction, only an increase in the secure rating was related to improved satisfaction for females. These gender differences are clinically interesting. Because the EFT group is a particular sample of people, maritally distressed and living in long-term relationships, it may be useful to speculate by looking at the descriptions of the two attachment categories on the RQ. It appears that for females, increases in DAS scores relate to being more comfortable depending on their partner. The improvement may also relate to being less anxious about the relationship, and more confident and autonomous in the relationship, as indicated by the significance of increased model of self as a predictor of marital satisfaction. For males, in addition to improved emotional closeness and comfort depending on the partner, the words of the avoidant-fearful prototype suggest that an increase in trust is also contributing to increased marital satisfaction. The significance of

improvement on model of other for males supports this conjecture.

The last hypothesis proposed that the greater gains in attachment and marital satisfaction ratings obtained for the EFT group over the pre- posttreatment interval would be sustained at 4-month follow-up. Results did not support this hypothesis. None of the gains of the EFT group relative to the control group was maintained at follow-up. Between pre- and posttreatment the EFT group showed significantly greater improvement than the control group on model of self, secure attachment, avoidant-fearful attachment, and preoccupied attachment. Trend analyses for the EFT group indicated that for the three measurement periods, quadratic trends met or approached significance with a corrected alpha level on each of these variables. Parallel analyses for the control group indicated no significant linear or quadratic trends. These analyses demonstrate that at the 4-month follow-up, the lack of significant improvement for the EFT group relative to the controls is a result of loss of effect from posttreatment for the treatment group , rather than improvement for the control group.

The present study undertook to determine empirically whether working models could be changed, and results are consistent with current writings on the dilemma of change in attachment. Indeed, results indicated that EFT could bring about a change in working model of the self, but that the change was not sustained. Much thinking in attachment theory relates to the belief that working models do not change easily, if at all (e.g., Hazan & Shaver, 1994). However, it is also believed that healthy development involves the revision and updating of inconsistent or obsolete working models (Bretherton, 1990). In theory, change will follow an irregular course. Bowlby (1980)

maintained that people undertake to replace an old model very reluctantly and proceed bit by bit, often going back to the old model although knowing it is outdated. To date, thinking is not well-developed regarding working models of specific persons concerning the self and other versus more generalized models. It has been suggested that we have a network of models, with specific models corresponding to particular kinds of relationships, and even more specific models of, e.g., a particular partner (Shaver et al., 1998). For the purpose of considering the outcome of the present study, two notions are relevant. One is that working models with respect to the spouse are thought to be complex and differentiated, and the second is that models with respect to the spouse are expected to be easily activated and usually accessible (Shaver et al., 1998). One could speculate that the availability of these models provides therapeutic opportunities in couple therapy, but that their complexity makes permanent change a difficult task. Indeed, interventions at different times may be required to solidify updates in these specific working models. According to Feeney and Noller (1996), the probability that old models will be more readily activated, particularly in times of stress, tends to perpetuate them. New, more constructive, behaviours, which would lead to new experiences, must be learned and practised in order to be activated under stress.

With regard to therapy as a vehicle for change in attachment working models, little is known. Empirically, the question of what changes working models in therapy, or how stable an obtained change would be, has not been investigated. Dozier and Tyrrell (1998) have formulated a model of change for individual therapy in which working models of self and other are explored initially through the client's relationship with the therapist.

Secondly, the therapist encourages the client to explore approaches to significant others. This process is seen to be facilitated by the initial work of developing an accurate and positive working model of the therapist. Dozier and Tyrrell have suggested that by helping the client investigate different psychological and behavioural approaches to significant others, models of these others and the self in relation to them will change. How long this process is likely to take is not specified. However, Dozier and Tyrrell hypothesize that fundamental change to general models will involve a long process of therapy.

In the EFT approach, the working model of the therapist is not the vehicle for relationship change. Rather, corrective emotional experience is designed to occur through interactions with the partner. Attachment and attachment behaviours and concerns associated with the significant other, the partner, are worked on directly with the partner. In the safety of the therapy, aspects associated with working models of self and partner surface and are addressed in the context of the couple. Emotional experiences, often related to attachment fears and concerns, occur and are processed in the therapy session. Through eliciting and expanding core emotional experiences and restructuring interactions, positive change occurs in partners' experience of each other (Johnson, 1998). In this study, it is argued that exactly this process, which provided each partner with new attachment experiences with the other over the course of the therapy, created the opportunity for and enabled the updating of attachment working models of the self, and affected attachment prototypes. Consistent with this thinking, Kobak and Duemmler (1994) have argued that through creating conversational coherence between partners in therapy, partners have new opportunities, over time, to increase their trust and confidence

in the availability and responsiveness of the other.

The results of this study lead to some interesting questions. The study was designed to determine whether working models of attachment changed during the EFT process. At the same time the DAS was also used to assess changes in couple satisfaction, or marital adjustment. It was anticipated that the DAS would show significant improvement at the end of therapy, given earlier research using the DAS as an outcome measure for EFT (Johnson et al., 1999). A question, then, is why did DAS scores for the EFT group not improve significantly in comparison to the waitlist control group by the end of therapy? One contributing factor may be that this study was not a study where marital distress was the target complaint. According to Johnson et al. (1999), the EFT studies which showed significantly greater improvement in dyadic adjustment for the EFT group, measured by the DAS, were those in which the primary focus was marital distress. From the outset, the focus of the present study was insecure attachment. Couples responded to advertisements targeting security issues in couples. The study was described to them as one relating to concerns about closeness and being able to rely on the partner for emotional support. It may be that couples who responded to the invitation to be part of the research were different from those who would respond to a study of marital distress. These couples were committed to their relationships, had been together for a long time, yet had strong concerns around attachment issues. In addition, it may be that the therapy process was somewhat different as a result of the focus of the study. The therapy, while being comprised of EFT interventions, was framed in attachment terms. The issue of whether the sample in the present study is different because a different concern was

targeted cannot be resolved empirically. It is worth noting, however, that there are indications that the sample in the present study was a clinically distressed sample with some striking characteristics. First, sixty per cent of the couples had previously been in couples therapy. Secondly, of the 52 persons in the study, only 8 (13.5%) rated the secure prototype highest among the attachment prototypes. For 17 of the 26 couples (65.4%) in the study both partners reported insecure attachment prototypes. Often during the process of EFT the therapist encourages an insecure partner to use the other as a secure base as part of the process of change, including learning to depend on the other. This is likely to be more difficult if both partners rate insecure prototypes as most like them. The third characteristic is an observation made by the researchers and project therapists throughout the supervision of the therapy, and therefore anecdotal; namely, that several of the couples in the treatment group were found to have circumstances of great distress to them which were not revealed at the intake session, but were likely to underlie the insecure attachment.

A second question is how to evaluate the outcome of the study? Considering the mixed results, it is of interest to consider how attachment variables and marital satisfaction are related. A number of recent studies have attempted to investigate the relation between attachment and marital satisfaction with married couples. They have used a variety of attachment and marital satisfaction measures, and are thus not directly comparable. In fact, writers in the field of marital satisfaction have expressed concern that the commonly used measures of marital satisfaction are often confounded with items which are not satisfaction items (Whisman, 1997). Two studies have reported regression analyses designed to

determine whether attachment category variables predict marital satisfaction using the DAS. Carnelley et al. (1996), in a study of 36 couples using their own continuous measures of attachment found that, for wives, lower scores on both fearful-avoidant and preoccupied ratings predicted higher DAS scores. For husbands, only fearful-avoidant ratings predicted scores on the DAS, but fearful-avoidant and preoccupied scores were highly correlated. Lussier et al. (1997) found similar results, in a study of 263 couples, with the additional finding that wives' lower secure attachment scores predicted greater marital satisfaction. In the Lussier et al. study attachment variables accounted for 18% of the variance in marital adjustment scores for wives, and 20% per cent of the variance for husbands. These two studies suggest that attachment categories or prototypes can explain some of the variance in DAS scores for married partners, but results are somewhat inconsistent.

Other studies have looked at variables which might mediate the relation between attachment dimensions and marital satisfaction. None of these has used the DAS. They are of interest because they seek to find how the two dimensions, anxiety over abandonment (posited to compare to model of self) and comfort with closeness (model of other), relate to marital satisfaction. Results varied. Feeney (1994), using the Quality Marriage Index (QMI; Norton, 1983), found that for husbands, QMI scores were related to the anxiety over relationship dimension (model of self). For wives, both the model of self and model of other hypothesized equivalent dimensions predicted QMI scores, but there was also a strong mediating effect for communication patterns. Feeney (1996) determined that both the model of self and model of other proposed equivalents predicted QMI scores for both

partners. For husbands the greatest predictor of QMI scores was ratings of the partner's responsive caregiving. Davila, Bradbury, and Fincham (1998) looked at the experience of negative emotion as a mediating variable using the Collins and Read (1990) attachment dimensions anxiety about abandonment (model of self) and comfort with closeness (model of other). For wives, the model of self dimension had a direct effect on marital satisfaction ratings, whereas the model of other dimension had only an indirect effect through the experiencing negative affectivity variable. For husbands, scores on the model of self dimension had both a direct and indirect association with marital satisfaction, mediated by negative affectivity. Comfort with closeness (model of other) only approached significance as a predictor of marital satisfaction, and was not mediated by negative affectivity. Results of these studies suggest that there is a relation between attachment category ratings and marital satisfaction, but findings vary over which is the strongest predictor. With respect to attachment dimensions, model of self and other proposed equivalents, there is not a clear finding concerning whether both dimension predict marital satisfaction, and whether one is a stronger predictor than the other. As research in the area continues it is likely that results will indicate that the association between these variables will be mediated by a number of relational constructs.

With respect to the present study, it can be argued that the attachment measures are valid outcome measures. They represent different variables than marital adjustment or satisfaction. Given that recent research shows inconsistent relations between the variables, it is not unforeseeable that a study targeted to attachment issues could show gains in attachment variables and not in marital satisfaction. It was not, however, predicted.

Theoretical Implications

The principal theoretical implication of this study is that working models of the self and ratings on attachment prototypes can be changed. According to attachment theory, working models are difficult to change because they are longstanding, and operate largely out of awareness. Even with respect to more specific models of a particular person, the assumption that specific models develop out of earlier expectations as well as later experiences suggests that they will be hard to change.

The attachment literature suggests that if change in attachment models is experienced, it will be brought about through disconfirming experiences (e.g Bowlby, 1980). Researchers propose that therapists can bring about change through the therapeutic relationship or through cognitive-behaviour therapies which challenge existing working models (e.g., Feeney & Noller, 1996). The present study provides evidence that EFT can bring about a change in the working model of the self, and in attachment prototypes hypothesized to relate to working models of self and other. More specifically, the most significant change at the end of treatment relative to the control group was on the rating of the preoccupied prototype, when measured by the RQ, the standard self-report measure for Bartholomew's 4-category model. The second most significant finding was for the avoidant-fearful rating. An increase in secure ratings was also significant. Regarding the connection between increased marital satisfaction at the end of EFT and changes in attachment ratings, the prototype change which predicted a positive change in DAS ratings was that of the secure category.

Furthermore, the findings of this research support the theory and predictions that

change in attachment structures will be difficult to maintain. None of the improvements apparent at the end of treatment was sustained at the later assessment. The gain which showed the greatest stability was for the avoidant-fearful prototype, which is interesting given that this prototype involves negative models of both self and other.

With respect to EFT, the theoretical implication is that, as hypothesized, the process of EFT involves bringing about changes in attachment prototypes. This supports the theoretical foundation of EFT, which is developed from an attachment perspective.

Empirical Implications

The posttreatment results of the present study draw attention to the conceptualizations of the four attachment prototypes and the underlying dimensions, model of self and model of other. Theoretically, improvements in model of self and other are seen to lead to better functioning, and with respect to the original attachment conceptualizations this would be true. Furthermore, the linear combination of the four prototypes into two dimensions is intriguing because it, hypothetically, could represent a picture of the combination of prototype scores for a particular person. However, particularly when looking at change, a translation of attachment theory into mathematical formulae may not reflect clinical success. The parcelling of the prototypes into two orthogonal dimensions and discussing results in terms of these may not represent clinical phenomena as therapists understand them. It may be more clinically relevant and informative to look at clinical change in terms of the prototypes, rather than the underlying dimensions. This approach is supported by the comment of Bartholomew (Griffin & Bartholomew, 1994) to the effect that, at some point in the development of the 4-category

model, it had proved too difficult to develop rules for being high or low on the two dimensions, and thus the decision was made to rate the prototypes and calculate the models as hypothetical constructs. Secondly, according to Bartholomew, raters found it very difficult to rate people on the underlying dimensions, whereas they could be successfully trained to rate them on prototypes. Furthermore, research is emerging which challenges the valence of these prototypes with respect to the theoretical underlying dimensions. Simpson, Rholes, and Phillips (1996) found that the fearful prototype is more strongly associated with negative views of others than negative views of the self, and that the preoccupied prototype is more closely related to negative views of the self than positive views of others. Given these new developments, clinical researchers may find that models of self and other, as defined in the Bartholomew 4-category model, are more useful as theoretical constructs than statistical variables.

A second empirical implication relates to the instruments used to measure attachment prototypes. Although there was a general convergence in the findings for the two measures, the RQ and the RSQ, it is clear that subjects are responding to these measures differently. Results at posttreatment found significantly different outcomes for the preoccupied ratings, and the order of magnitude of significance on the fearful and secure ratings was reversed. At posttreatment, correlations between the RQ and the RSQ for the EFT group were lowest for the preoccupied category, $r = .58$. Correlations on the other categories ranged from .73 to .79. Thus, further investigation into these measures is required.

A third empirical implication relates to the unresolved issue in attachment research

over whether changes in attachment ratings over time reflect changes in attachment, or measurement difficulties. Any research which measures changes in attachment is confronted with this issue. The inclusion of two attachment measures demonstrated that, in part, the instability may reflect measurement differences. Whereas, for the RQ, pre- post correlations for the control group ranged from .36 to .61, with the RSQ, correlations ranged from .38 to .85. Reflecting the differences on preoccupied ratings for the two measures, the pre- post correlation for preoccupied ratings was .61 for the RQ and .85 for the RSQ. It is apparent that continued work needs to be carried out with attachment measures. In the meantime, multiple measures of attachment should be used, even though contradictions may result.

Strengths and Limitations of the Study

Strengths. The first strength of the present study is that it followed the true experimental design, in which couples were randomly assigned to the EFT or wait-list control group. At pretest they were equivalent on both demographic and outcome variables of interest. This has allowed a statistical comparison of changes over time, and given strength to the findings of treatment effects for EFT. A second strength is that the therapy was carried out by highly qualified and committed EFT therapists. Their contributions to the supervision of the treatment and their expertise in carrying out EFT ensured that the treatment implementation was authentic.

The study used multiple measures to assess attachment, which is recommended given current knowledge about assessment of attachment constructs (Ognibene & Collins, 1998; Scharfe & Bartholomew, 1994). By using two instruments from the same

theoretical approach, yet with different structures, the findings have more support. At the same time, the differences in the results inform us that results vary with the measures used. In addition, the present study has used continuous measures of attachment for the four prototypes, rather than assigning subjects to discrete categories. The move toward use of continuous measures has recently been recommended by attachment researchers (e.g., Feeney & Noller, 1996; Fuller & Fincham, 1995). In this study, continuous ratings on four prototypes have provided a more complete picture of subjects' attachment patterns and changes throughout therapy. Use of the ratings acknowledges that persons vary in individual ways among the attachment dimensions. It follows that they may also change in different ways throughout therapy and after. Statistically, the continuous measures permitted regression analyses, which provided an elaboration of the findings.

In line with recent recommendations by attachment researchers to be more precise when exploring attachment representations (e.g., Shaver, et al., 1996), this study has explicitly focused on working models and attachment prototypes with respect to a particular other. This allows for more specific reporting of results. In addition, it represents the approach of EFT interventions, which are connected to the specific other.

Finally, the present study provides a much needed link between social and clinical psychology. At the moment research in adult attachment remains in two essentially separate groups, social psychology and developmental psychology, which focus on different approaches to attachment and measure different constructs (Feeney and Noller, 1996). Yet researchers refer in their writings to therapy as a place where attachment difficulties may be addressed. This study has undertaken to investigate two questions, one

from attachment theory and one from EFT. The first question was whether working models of attachment could be changed and, if so, under what circumstances. The second was whether changes in attachment working models underlie improvement in EFT. Results support the conceptualization of EFT as a therapy addressing attachment issues, and give evidence that specific attachment models and patterns can change in a particular couples therapy, EFT.

Limitations. One limitation in this study relates to the difficulties in measurement of attachment constructs, particularly concerns over low test-retest correlations. Baldwin and Fehr, 1995, have suggested that the low correspondences between repeated tests of attachment constructs reflect problems with measurement which attenuate the power of investigations in attachment research.

A second concern is the use of self-report measures to assess attachment prototypes. Some research has suggested that attachment interviews obtain more stable data (Scharfe & Bartholomew, 1994). Proponents of the interview method also argue that interviews assess different levels of attachment representations by focusing on the coherence and quality of the responses, in addition to the content (Bartholomew & Horowitz, 1991). In this way, defensive strategies, which might be a part of self-report assessments, are more likely to be detected. An interesting possibility relating to defensive strategies is that someone who initially reports higher security because of them may, over the course of therapy, actually tend toward more insecure ratings as attachment concerns and working models become activated.

A third limitation was the reduced size of the control group. Although power did

not seem to be an issue in the analyses, the fact that more subjects left the control group detracts from the equivalence of the two groups.

Future Research

The present study asked whether attachment working models could be affected by EFT. Results indicate that EFT does, in fact, bring about change in the working model of self, as measured by the Bartholomew (1990) model, and in the underlying attachment prototypes. Intriguing questions are how changes came about in the therapy, and how processes differed for different attachment configurations. Collins (1994), for example demonstrated that, unlike persons with secure attachment, persons with anxious attachment patterns tend to account for their partner's behaviour in ways reflecting low self-worth and a lack of confidence that their partner loves them. Murray, Holmes, Macdonald, and Ellsworth (1998) have determined that persons with negative models of self, as persons in the preoccupied attachment prototype are seen to have, tend under stress to doubt their partner's positive self-regard, and then protect themselves by valuing their partner less. In this way, a preoccupied individual may, for instance, fluctuate toward a higher fearful-avoidance rating, or remain higher on the preoccupied rating but demonstrate more hostility. Studies which attempt to follow the therapy process with respect to attachment concerns and resolutions of attachment issues would provide invaluable information for couples therapists.

Another important question is how changes in attachment ratings in therapy influence the ways in which partners experience their relationship. Further, how do partners respond to shifting attachment patterns? Answers to these questions would guide

therapists in their interventions and provide them with a greater understanding of the fears and stresses which couples experience during the therapy process.

In summary, this study could be described as a pioneering work, pairing research in EFT and attachment research. Combining the methodology of previous EFT studies with attachment constructs, the study has provided results which inform both EFT theory and attachment theory and research. Using subjects who were maritally distressed and indicating insecure attachment patterns with respect to their spouse, EFT was able to bring about significantly greater change, when compared to a wait-list control group, in ratings on three of the four attachment prototypes delineated by Bartholomew (1990), and in the model of self. The study also showed that, consistent with attachment theory, the significantly greater changes were not maintained at follow-up. Particular patterns of changes in attachment predicted improved marital satisfaction. Finally, research issues relating to attachment measurement and stability have been demonstrated in this study. The findings of this study should encourage further research concerning the process of change in EFT from an attachment perspective.

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APPENDICES

NOTE TO USERS

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**Appendices A-D
pages 119-129**

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UMI

Appendix E

Telephone Screening Interview

Thank you for calling about the study.

We are conducting a research study on counselling approaches aimed at helping couples to feel safer with each other and more satisfied in their relationships. The study has been approved by the Research Ethics Committee of the University of Ottawa and is conducted by therapists experienced in working with couples. The project is closely supervised by a psychologist registered in the province of Ontario.

Participation in the study involves being randomly assigned to one of two groups. This means that neither you nor the researchers will know which treatment you will receive until treatment begins. Thus agreeing to be in the study means that you are agreeing to participate in either form of treatment.

Types of Treatment

One form of treatment involves coming in for a minimum of 15 counselling sessions of approximately one to one and a quarter hours each, one week apart. The other form of treatment consists of completing a series of questionnaires at the beginning of the study, after four months, and after eight months. At the end of this time you will then have the opportunity to receive the equivalent therapy through the Marital and Family Therapy Clinic at the Ottawa Civic Hospital.

To participate you will need to satisfy certain criteria. In a moment, I will ask you some questions that will help me determine if you might be suitable for this study. If you do seem suitable you will be asked to come in to the University of Ottawa to complete this study. When you come in to complete these questionnaires you will be given more information about the study and will be asked to read and sign a consent form before completing the questionnaires.

If you are selected and assigned to the early treatment group, there is a possibility that you may be placed on a waiting list for approximately 4 to 5 weeks. In the event of such a wait, or in the event that you are assigned to the delayed treatment group would you still be willing and able to participate in the study?

YES _____ NO _____

Answer must be YES

REFERRAL SOURCE

How did you find out about this study?

Specific source of referral _____

Appendix E

Telephone Screening Interview

I would now like to ask you some questions to see if you and your partner meet the criteria for the this study.

1. Are you and your partner currently living together?

YES _____ NO _____

Answer must be YES

2. How old are you? M _____; F _____

Must be 25 years or more

3. How long have you been living together? _____

Minimum: 2 years

4. Does either one of you experience any problem related to alcohol or drugs?

YES _____ NO _____

Answer must be NO to both

N.B. If caller reports substance abuse ask if they wish to be referred for treatment elsewhere.

5. Will either one of you be participating in any form of psychological or psychiatric treatment in the next six months?

YES _____ NO _____

Answer must be NO

Must not be involved in other treatment or marital enrichment
(marriage encounter etc.) for the duration of the study

Disposition of call

Does not meet criteria

If the caller does not meet inclusion criteria, explain why and thank them for their interest in the study.

Appendix E

Telephone Screening Interview

Has the caller been referred elsewhere for treatment?

YES _____ NO _____

If Yes, please specify _____

Meets criteria

If couple meet all inclusion criteria, obtain the names of the potential subjects and their phone numbers.

Names: _____

Tel: (H) _____

(W) _____

Tel: (H) _____

(W) _____

Set up appointment for completion of questionnaires. The maximum duration of this appointment is 1 hour.

Date _____ Time _____

Place: University of Ottawa-- give appropriate directions.

Appendix F

Consent Form

Couple # _____

The purpose of this research project is to examine methods of helping couples achieve closeness/security in their relationship. The present study will include couples who would like to improve their relationship by increasing their sense of trust and closeness but who experience a particular difficulty in doing so.

Major procedures

If you agree to participate in this project, both you and your partner will be required to complete questionnaires in order to assess your suitability for this study. If you do not meet the inclusion criteria for this study, you will be given feedback on your initial testing and referred for counselling if you so desire.

If you meet our criteria for participation, you will be assigned to either the immediate treatment or the delayed treatment group. You will then be assigned to a counsellor who will call you within a four to six week period. You will be seen for a minimum of 15 weekly sessions of approximately one hour. Both you and your partner will be required to attend the sessions together each week. Sessions will be conducted by experienced marital therapists. Supervision of the therapy process will be carried out by Dr. Susan Johnson, a registered clinical psychologist at the Centre for Psychological Services of the University of Ottawa. All sessions will be audiotaped for supervision and to ensure that the approach is faithfully implemented. The counselling sessions are free of charge and will take place at the Centre for Psychological Services.

At the end of the fifteenth session, you will be asked to complete a set of research questionnaires. Twelve to sixteen weeks after the end of the counselling sessions, you will be contacted to complete follow-up questionnaires (approximately 30 to 45 minutes).

Counselling approaches used in this study

The forms of counselling used in this research have been especially developed to help couples overcome relationship difficulties and have been found to be effective. In this study they are specifically used to enhance closeness and security.

Testing

Both partners of couples participating in this project will be required to complete research questionnaires. These include the initial testing before the beginning of counselling, as well as testing after the fifteenth session and at the twelve-week follow-up. Each testing period will last approximately 30 to 45 minutes. In addition each partner will be required to complete a short questionnaire after each session (5 minutes). Questionnaires assess the status of the relationship as well as each partner's perception of the counselling process. All testing is done free of charge.

Appendix F

Consent Form

Confidentiality

Confidentiality of all tape recordings and written responses will be respected according to the ethical guidelines of the Ontario Board of Examiners in Psychology. Your names will be known only to the people who are directly involved in the research. These include the principal investigators, the clinical supervisor, and the counsellor. Anonymity will be assured through the pooling of all data so that the published results will be presented in group format and no individual or couple will be identified.

If researchers wish to keep certain recordings for training purposes, you will be asked to sign a consent form to this effect. All other recording will be completely erased after the end of the study. Written responses to questionnaires as well as progress notes written by the counsellors will be kept in a confidential file at the University of Ottawa.

I, _____, understand that I am being asked to participate in a study to examine counselling approaches to the enhancement of a sense of security and closeness in a couple relationship. I consent to the use of tape recordings of counselling sessions and of my written responses to the questionnaires for the purposes of this research. I understand that all information gathered will be held in strict confidence within the limits of the law and according to the ethical principles of the Ontario Board of Examiners in Psychology, and that this information will be available only to those who are directly involved in this study.

My participation in this study is voluntary and I may withdraw from this project at any time and/or request that tapes be erased without penalty and without jeopardizing access to further counselling.

I can contact either Dr. Susan Johnson (562-5880) or Ann Sims (562-5800, ext.4461) at the University of Ottawa to answer any questions or concerns that I may have. I also understand that debriefing on the more detailed procedures of the study will be offered after the completion of follow-up questionnaires, and summaries of the results will be sent to couples as soon as they are available if so requested.

I have received a copy of this information and consent form and I have read and understood it. I hereby agree to participate in the testing and in this research project if I am selected.

Signature: _____

Witness signature: _____

Telephone (H) _____
(W) _____

Date: _____

Appendix G
Demographic Questionnaire

M _____ F _____

1. How many years have you lived together as a couple? _____
2. How many children do you have? _____
3. Have you as a couple had couple counselling before?
Yes _____ No _____
4. Please check the category within which your gross family income falls:
 - _____ Under \$15 000
 - _____ \$15 000 - 25 000
 - _____ \$25 000 - 35 000
 - _____ \$35 000 - 45 000
 - _____ \$45 000 - 55 000
 - _____ Above \$55 000
5. Please state your age (in years) _____
6. Present occupation _____
7. Have you been married before? _____
8. Please indicate the category that best describes your level of education:
 - _____ Grade 10 or less
 - _____ Secondary School Diploma
 - _____ 2 years post secondary education
 - _____ Community college completed
 - _____ University degree completed
 - _____ Graduate program completed
 - _____ Ph.D. or equivalent completed

Thank you.