BOOSTER SESSIONS: A STRATEGY FOR MAINTAINING CHANGE IN AN EMOTIONALLY-FOCUSED MARITAL THERAPY

by

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ABSTRACT

The primary purpose of this follow-up study was to investigate whether couples who had regressed after receiving an Emotionally Focused couples therapy combined with a communication skills training component (EFT+CT) would increase in scores on measures of marital adjustment, communication, and target complaint improvement after receiving four booster sessions in communication skills training. The secondary purpose was to investigate whether receiving the booster sessions would enhance the maintenance of the EFT+CT couples' gains.

A comparative crossover control design was used to test the hypotheses in this study. Ten volunteer couples from the EFT+CT condition in James' (1988) study were randomly assigned either to a first-booster group (FB), or a delayed booster group (DB). Both groups were measured at pre-test and then the booster sessions were administered to the FB group while the DB group served as an untreated wait-list control. Both groups were measured again at post-test. Next, a treatment crossover occurred at which time the booster sessions were administered to the DB group and the FB group entered a four month follow-up period. Final measures were taken for both groups at the end of the follow-up period. The booster sessions were administered by four therapists who were randomly assigned to couples in each group. Ratings of therapists' interventions
confirmed the treatment integrity of the CT booster sessions in both groups. Tests of equivalence showed no significant differences between the FB and DB groups at pre-test on the measure of marital adjustment.

The results indicated that the primary hypothesis was partially supported. A statistically significant Time main effect was found on measures of marital adjustment and target complaint improvement when the collapsed pre-test and post-test scores for the FB and DB groups were compared. The results supported the secondary hypothesis. No significant differences were found on the dependent measures, for the FB group, between the booster post-test and follow-up occasions or between booster post-test and EFT+CT post-test occasions.

As an exploratory study, this investigation provides provisional support for the efficacy of booster sessions in increasing and maintaining moderately distressed couples' treatment gains following an Emotionally Focused marital therapy.
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CHAPTER I: INTRODUCTION

BACKGROUND OF THE PROBLEM

The results of research on the relationship between marital status and personal well-being indicate that being married is associated with three fundamental aspects of wellness: physical health and longevity, mental health, and life satisfaction (Fehr & Perlman, 1985; Segraves, 1982). That is, married individuals tend to remain healthier, live longer, and enjoy life more than the widowed, divorced or never-married. Lowenthal and Haven (1968) suggest that having close personal relationships helps to alleviate the negative effects of stress and promote healthy personal development throughout the life cycle.

According to Bowlby (1969), attachment, or the establishment of intimate relationships, is a basic human need. This notion is affirmed by the universality of marriage as a primary human context for intimate adult relationships. Intimacy has been defined as the sharing of fears or hurt feelings with someone who can be trusted, usually a mate (L'Abate, 1977).

Despite the significance of a healthy marital relationship in meeting adult intimacy needs and enhancing personal well-being, a satisfying union is difficult for many
couples to sustain. In Canada, approximately one marriage in three currently ends in divorce (Adams and Nagnur, 1989).

A satisfying remarriage also seems difficult for spouses to sustain. The results of a recent report on marrying and divorcing behavior indicate that approximately 13 percent of the marriages of Canadian men and women who were divorced at the time of marriage also end in divorce (Adams and Nagnur, 1989). The traumatic effects of divorce on children and spouses have been well documented and recent longitudinal investigations report that these effects can persist a decade later (Landis, 1960; Leslie, 1979; Wallerstein, 1988).

There is some evidence that being unhappily married may have even more damaging consequences than divorce. In a study of the relationship between health and marital experience, Renne (1971) found that people in troubled marriages were less physically and psychologically healthy than those who were divorced. Chronic marital distress has been associated with symptoms of dysfunction in one or both spouses such as: alcoholism, illness, neurotic or psychotic, behaviour, occupational problems, extramarital affairs, and depression (Le Masters, 1959; Coyne, 1984). Marital conflict is also implicated in adjustment disorders of childhood and adolescence (Minuchin, Rosman & Baker 1978,) and conduct disorders (Shapiro & Garfinkel, 1986). A review of studies correlating marital status with well-being reports a negative
relationship between marital distress and psychological health of spouses and their children (Seagraves, 1982).

The powerful impact of the marital relationship on the lives of spouses and their children underscores the need for effective methods to alleviate marital distress and promote lasting marital adjustment. The recent and rapid advancement of the field of marital therapy suggests that this need has been recognized. To date, the overwhelming majority of research on marital therapy has investigated relational difficulties within the couple (Gurman, Kniskern & Pinsof, 1986).

Research on the outcomes of marital therapy has increased considerably over the last ten years. In their extensive review of this literature, Gurman et al. (1986) conclude that both behavioural and non-behavioural approaches in couples therapy are significantly more effective than no treatment. Each of these approaches achieve positive gains at outcome about two-thirds of the time.

The achievement of desired changes at outcome is only one indication of therapeutic effectiveness, however. Results of a 20-year longitudinal follow-up investigation of psychotherapy patients suggest that psychotherapeutic change involves two processes: the process producing change and the process of maintaining the achieved changes or treatment gains (Liberman, 1978). Jacobson and Holtzworth-Munroe (1986) support this view in their assertion that "the ultimate goals of (marital)
therapy involve changes in the relationship that persist independently of the therapist" (p. 36). In addition to evaluating marital therapy at outcome, post-treatment follow-up studies are needed to determine whether treatment effects are sustained over time. To date, follow-up studies are lacking in research on marital therapy (Gurman et al., 1986).

Clinical and empirical study of the process of maintaining change has been neglected despite the observation that few studies demonstrate durability of treatment effects. Goldstein, Lopez and Greenleaf (1979) reviewed 192 controlled studies of various psychotherapeutic treatments ranging over a variety of disorders and found that 85% of the studies reported positive outcomes at termination but only 14% reported maintenance of treatment effects. The authors doubt that the absence of follow-up evaluation in many of these studies could have resulted in an artificially low rate of observed maintenance effects, citing other reviewers who report similar conclusions. For instance, Keeley, Shemberg, and Carbonell (1976) examined 146 clinical investigations of behavior therapy and found reports of maintenance effects in only 3% of the studies. Only eight of these studies presented data collected at least six months after termination of treatment and short term follow-up data were also absent. In their review of the research on the maintenance of change in psychotherapy, Imber, Pilkonis, Harway, Klein, and Rubinsky (1982) confirm that little evidence exists that gains achieved
in psychotherapy persist over time in the absence of planned maintenance techniques. The two main conclusions of these extensive reviews are that: (1) the maintenance of therapeutic gain is "more the exception than the rule" (Goldstien et al., 1979). (p.4) and (2) the maintenance problem has not been seriously addressed in the research on clinical psychotherapy and behavior therapy (Keeley et al., 1976).

Only recently have researchers attended to the problem of maintaining gains achieved in marital therapy (Jacobson, 1986). A small but growing base of follow-up research provides evidence of the maintenance problem in behavioral (Jacobson, Follette, Revenstorf, Baucom, Hawleg & Margolin, 1984) and non-behavioural domains of marital therapy (Johnson & Greenberg, 1985; Goldman, 1978; James, 1988). Gurman et al. (1986) contend that partitioning the research into these domains "does reflect the reality that there are two quite distinct marital therapy literatures, the literature dealing with behavioral marital therapy (BMT) which contains dozens of outcome studies, and that dealing with all other "brands" of couples therapy (e.g., psychodynamic, strategic, systemic), which is almost a null set" (p.582).

THE PROBLEM

Most marital therapy research has focused on improvement within or at the termination of treatment. Both behavioral and
non-behavioral schools of marital therapy have demonstrated efficacy in producing change at outcome (Gurman et al., 1986), however, the durability of treatment gains beyond the formal treatment period remains unclear. There is an apparent need for research investigating the maintenance of treatment-induced change over time. This need is particularly evident in non-behavioral marital therapy, the least studied of the two schools. One of the first investigations of a contemporary non-behavioral therapy named Emotionally Focused Couples Therapy (EFT) (Greenberg & Johnson, 1986) was conducted by Johnson and Greenberg (1985). In this comparative experiment, 45 couples were randomly assigned to either of two treatment conditions or a wait-list control condition. The two treatment conditions consisted of eight sessions of either EFT or Cognitive-Behavioral marital therapy (CBMT). At post-test, both treatment groups showed significant gains over untreated controls on measures of goal attainment, marital adjustment, intimacy, and resolving target complaints. EFT surpassed CBMT on marital adjustment, intimacy, and resolving target complaints. At eight-week follow-up, EFT was superior to CBMT on marital adjustment only, indicating regression on measures of intimacy and target complaints.

In a recent study, James (1988) randomly assigned 42 couples to three groups: an experiential-systemic treatment called Emotionally Focused Therapy (EFT), EFT plus a Communication Skills Training component (EFT+CT) and a wait-
The couples in the EFT condition received 12 one-hour sessions of EFT and the couples in the EFT+CT condition received eight one-hour sessions of EFT and four one-hour sessions of CT. Data were collected at pre-test, eight weeks, post-test, and four-month follow-up on measures of marital adjustment, communication, intimacy, and resolving target complaints.

The primary purpose of the investigation was to test whether the addition of a communication skills training (CT) component would enhance the effectiveness of EFT. In comparison to the control group, both treatment groups showed statistically significant gains on the four outcome measures at post-test. However, regression of treatment gains was found in both treatment groups at the four-month follow-up.

Results of the structured interview James (1988) conducted after couples' final therapy sessions, revealed that the EFT+CT couples would have liked more sessions of CT. Couples reported that they had not sufficiently mastered the skills to feel confident in using them outside of therapy. The empirical findings of deterioration in the EFT+CT treatment group, together with client responses favouring more communication training, raised the question of whether additional CT sessions would enhance the maintenance of treatment gains.

Clearly, the failure of couples to maintain gains achieved in marital therapy is an important clinical concern
and an issue deserving empirical study. This study addresses the maintenance problem by investigating the efficacy of booster sessions as a strategy for enhancing the durability of treatment gains in a non-behavioral marital therapy.

Booster sessions have been advocated as a promising technique for promoting maintenance after behaviour therapy (Whisman, 1990). Booster maintenance sessions are typically described as brief versions of the treatment administered after termination of the formal treatment period. Most of the literature supporting the effectiveness of booster sessions emanates from behavioral research on the treatment of addictive disorders such as alcoholism, obesity, and smoking. Contemporary researchers have recommended the use of booster sessions as a strategy for enhancing the maintenance of treatment gains achieved in marital therapy (Bogner & Zielenbach-Coenen, 1984; Jacobson & Holtzworth-Munroe, 1986; James, 1988), although no such investigation has been reported to date.

As a follow-up of James' (1988) study, this study investigates the effects of four CT booster sessions on measures of marital adjustment, communication, and target complaint improvement, for couples who previously had received the EFT+CT treatment.
PURPOSE AND HYPOTHESES

The primary purpose of the proposed study is to investigate whether booster sessions in communication skills training (CT) are more effective than no treatment in increasing regressed couples scores on measures of marital adjustment, and communication, and in resolving target complaints.

The secondary purpose of the study is to investigate whether couples receiving (CT) booster sessions maintain their gains on the dependent measures.

The hypotheses under investigation in this study are:

H1(a): Couples who are in the first-booster group, will demonstrate statistically significantly higher scores at the booster post-test occasion on measures of marital adjustment (DAS), communication (CS), and specific problem resolution (TC) than will waiting-list couples in the delayed-booster group.

H1(b): Couples who are in the first-booster group will demonstrate statistically significantly higher scores on the DAS, CS, and TC on the booster post-test and booster follow-up occasions than will waiting-list couples in the delayed-booster group.

H1(c): Couples in the first-booster and delayed-booster groups who receive booster sessions at different times will demonstrate a statistically significant increase in scores on
the DAS, CS, and TC between booster pre-test and post-test occasions.

H2: Couples who are in the delayed-booster group will not increase in scores on the DAS, CS, and TC during the wait-list period.

H3: Couples who are in the first-booster group will maintain scores on the DAS, CS, and TC between the booster post-test and follow-up occasions.

H4: Couples in the first-booster group, who receive CT booster sessions after termination of EFT+CT will not differ in scores on the DAS, CS, and TC at the booster post-test occasion and the post-test occasion in the James (1988) study.
CHAPTER II: LITERATURE REVIEW

In this chapter, follow-up studies in behavioral and non-behavioral marital therapy are discussed with emphasis on the problem of maintaining treatment-induced change. Research on the use of booster sessions and fading as strategies for maintaining treatment gains is also presented. The chapter ends with a description of the theory and contents of the CT booster treatment administered in this study.

FOLLOW-UP RESEARCH IN MARITAL THERAPY

Over the last decade there has been a marked increase in outcome research in the field of marital therapy. From their extensive reviews of this research, Gurman et al., (1986) and Gurman and Kniskern (1981) conclude that both non-behavioural and behavioural schools of marital therapy are significantly more effective than no treatment with improvement reported in about two-thirds of the trials.

Whereas the efficacy of marital therapy in producing change at outcome is empirically validated, the related question of whether the achieved changes persist over time remains unanswered. Adequate systematic longitudinal research has not been conducted to answer this question. To date, most studies have focused on improvement at outcome and even short-term follow-up studies are rarely undertaken.
Empirical neglect of follow-up research may owe to various problems of design and data interpretation. Short-term follow-ups may have poor validity. A very brief follow-up can demonstrate treatment effects that disappear over longer periods of time while more moderate durations can undermine the detection of treatment effects that emerge in the longer term (Gurman et al., 1986 et al. 1986).

Long-term follow-ups are difficult to conduct due to confounds from sample attrition and the increased number of intervening variables that compete with treatment effects over time. Researchers recognize that the findings obtained in follow-up of psychotherapy studies are influenced by the timing of the follow-up. Lebow (1981) states that "outcome is best evaluated at more than one point in time" (p. 180).

Follow-up Studies in Behavioral Marital Therapy

The bulk of outcome research in marital therapy emanates from the behavioral marital therapy school (BMT). In this research, the loss of treatment gains after treatment termination presents a significant concern. In a reanalysis of data taken from four previous studies, Jacobson, Follette, Revenstorff, Baucom, Hawleg, and Margolin (1984) used a reliable change index (based on the standard error of measurement) to classify 148 treated couples into categories of improved, unimproved, and deteriorated. Results based on this criteria for assessing clinically significant change
showed that 54.7% of the couples improved significantly at outcome. At the six-month follow-up about 72% of the improved couples had maintained their treatment gains whereas 28%, (nearly one-third) showed deterioration.

Similar relapse rates were found at the one-year and two-year follow-ups of a study comparing the effectiveness of a complete BMT treatment package (CO) with its major components; behaviour exchange training (BE) and communication/problem-solving training (CPT) (Jacobson & Follette, 1985). In this study, no differential treatment effects were found at post-test, although the results supported the hypothesis that the CO condition would produce better long-term outcomes than either of the components alone.

In their one-year follow-up of Jacobson et. al. (1985), Jacobson, Follette, Follette, Holtzworth-Munroe, Katt, and Schmalling, (1985) used previously described criteria to assess clinically significant change in the 43 originally treated couples. The results were that approximately 30% of the couples in each of the three treatment conditions showed significant deterioration between six months and one year.

In the two-year follow-up study, Jacobson, Schmaling, and Holtzworth-Munroe (1987) classified the remaining 34 of the original 43 couples on a scale ranging from "improved" to "relapsed". The relapsed rating referred to couples who had been classified as "happily-married" at either post-test, six-month, or one-year follow-up, but whose DAS scores at two-year
follow-up were significantly deteriorated and below 97. The results at two years showed that 30% of the 34 CO couples had relapsed. Assuming that attrition in the original sample of 43 had eliminated the most distressed couples (leaving the most improved among the remaining 34), the actual relapse rate could be even higher. These relapse rates suggest that treatment gains for many couples receiving BMT are temporary.

With respect to estimates of treatment success, Jacobson et al. (1984) assert that "the absence of conventions for designating a couple as improved has led to an inflated estimate of (BMT) success rates. It is almost inevitable that the same is true of other approaches" (p.503) in marital therapy. It follows that, if success rates in marital therapy are prone to overestimation because of ill-defined criteria, then it is also likely that deterioration or relapse rates have been underestimated for similar reasons. Even at the currently reported rates, relapse is a bona fide concern to researchers, clinicians and clients involved in marital therapy.

At the two-year follow-up, Jacobson et al. (1987) also compared "maintainers" and "relapsers" responses to a structured interview. The authors found that relapse seemed unrelated to factors associated with BMT but rather had more to do with negative life events that had occurred after the termination of therapy. One interpretation of this finding is that therapy gradually tends to lose its impact on marital
relationships as negative events intervene. Another finding from the structured interview was that 20% of the couples spontaneously suggested booster sessions as a way to maintain changes in their relationships. Some 90% responded positively when the interviewer questioned them as to the potential usefulness of booster sessions.

Several other authors support the notion that intervening life events inevitably attenuate the impact of brief therapy programs and undermine the maintenance of achieved treatment gains. Jacobson et al. (1987) suggest an alternate way of organizing marital therapy programs, namely that, following the initial treatment period, "follow-up and booster sessions are offered as an expected and regular part of the marital therapy contract" (p. 194).

**Follow-up Studies in Non-behavioral Marital Therapy**

Follow-up studies, and for that matter controlled studies in general, are rare in the non-behavioral marital therapy literature (Gurman et al., 1986). Four of the following studies provide evidence of post-treatment regression of gains achieved in non-behavioral marital therapy. Contrary to these findings, the fifth study provides evidence of maintenance one year after treatment.

In the first study, described earlier in this paper, Johnson and Greenberg (1985) compared 45 couples who were randomly assigned to either of two treatment conditions or to
a wait-list control condition. The two treatments were a cognitive-behavioural marital therapy (CBMT) and Emotionally Focused Therapy (EFT). After eight weekly treatment sessions both treatment groups made significant gains over the control group on measures of marital adjustment, intimacy, goal attainment, and target complaint reduction. EFT was superior to CBMT at post-treatment on all measures except goal attainment. By the eight week follow-up EFT had maintained superiority over CBMT on marital adjustment only, having regressed on the other measures. Post-treatment regression was evident in both treatment groups at the follow-up. No further data were available to determine the persistence of change beyond the eight weeks.

In a partial replication of the Johnson and Greenberg (1985) study, Goldman (1987) compared EFT with an Integrated Systemic (IS) approach to marital therapy and a wait-list control. Both treatment groups showed significant gains at post-test over the control group on measures of marital adjustment, conflict resolution, goal attainment, and target complaint reduction. There were no differential outcome effects between treatment groups at post-test. At the four-month follow-up, the IS group had maintained treatment gains whereas the EFT group had experienced significant deterioration on all measures except conflict resolution.

Remple (1987) conducted a one-year follow-up of Goldman's (1987) study and found that the EFT group had improved to
post-treatment levels between four months and one year, and that the IS group had maintained their treatment gains. No significant differences were found between the EFT and IS groups at one year. Remple attributed the increase in EFT scores over time to a "sleeper effect" operating as a function of the treatment. These results oppose those reported in other studies of EFT and call for further research on the long-term treatment effects.

James (1988) reported the familiar pattern of post-treatment regression of treatment gains in a later comparative outcome study. In this experiment, 42 moderately distressed couples were randomly assigned to one of two treatment groups or to a control condition. Couples in the Emotionally Focused Couples Therapy (EFT) group received 12 one-hour sessions; couples in the EFT plus Communication Skills Training (CT) group received eight sessions of EFT and four sessions of CT. The dependent measures were; the Dyadic Adjustment Scale (DAS), the Psychosocial Intimacy Questionnaire (PIQ), the Passionate Love Scale (PLS), the Communication Scale (CS), and Target Complaints (TC).

The results at post-test showed both the EFT and EFT+CT treatments to be superior to the control condition on measures of marital adjustment (DAS), and target complaints (TC). Only the EFT+CT group achieved significantly higher post-test scores than the control group on the measure of communication (CS).
No differential treatment effects were found between the groups at post-test. By the four month follow-up, both the EFT and EFT+CT groups had regressed. In particular, the EFT+CT group had regressed more than the EFT group which is perplexing because CT component was hypothesized to enhance the effects of the EFT and expected to serve a maintenance function.

Results of a structured interview of the couples administered after treatment indicated that couples would have liked a few additional CT sessions because they thought they had not sufficiently mastered the skills to use them with confidence. James suggested that CT booster sessions could be useful in promoting the maintenance of gains achieved in marital therapy.

Replicating Remple's (1987) study, Hansen (1990) conducted a one year follow-up of nine couples from James' (1988) EFT treatment group. Outcome was assessed on measures of marital adjustment (DAS), communication (CS), intimacy (PIQ), and target complaints (TC). Results indicated no significant differences in couples' mean scores between four-month follow-up and one year follow-up on any of the measures. Trend analysis revealed a significant cubic trend in the data which was interpreted to reflect a decline in post-treatment regression (from four-months to one year) as couples' mean scores stabilized. While it appears that the regression of scores had slowed, one year later couples had not regained
their post-treatment gains but remained at the same diminished level reported at the four-month follow-up. In support of this observation, results of the Neuman-Keuls pairwise comparisons showed a significant decrease in scores between post-test and four-months, and post-test and one year on the DAS, CS, and TC. It seems that, from post-test to one-year couples had experienced a marked loss in their treatment gains.

**BOOSTER SESSIONS AND THE MAINTENANCE OF CHANGE**

Rationale

Advocated in behaviour therapy research for over two decades, booster sessions are the most commonly studied maintenance technique.

Booster sessions have been described as brief versions of the treatment sessions designed to provide additional support but not introduce new treatment techniques (Hall & Hall, 1980). In other words, they are a limited extension of routine therapy procedures spaced over longer intervals than the intensive treatment period itself. The sessions are typically administered in the follow-up phase after treatment termination.

The rationale for booster sessions is based on the notion that extended contact with the therapist will enhance the maintenance of treatment gains (Eysenck, 1963). Maintenance is defined as the continuation of changes instigated in therapy
beyond the formal termination of treatment (Karoly & Steffen, 1980). Goldstein et al. (1979) have identified maintenance enhancing events as those which increase the real-lifeness of the treatment context, maximize response availability, and maximize stimulus variability. More simply put, a behaviour learned in treatment is said to have been maintained when it is readily available to the client for use in his daily life with his significant others.

In this study maintenance of treatment gains is said to be achieved when couples mean scores at the post-treatment assessment are not significantly different from their mean scores at subsequent follow-up assessments.

Research on Booster Sessions

In a recent review of the efficacy of booster sessions, Whisman (1990) identified 30 clinical trials in the literature of the past 18 years in which booster sessions were employed with a range of target behaviours. In the 26 studies which evaluated adding booster maintenance sessions to standard treatments, the sessions "significantly enhance behaviour change in 15 (58%) of the studies" (Whisman, 1990, p.165) and augmented change in several others. The following is a review by subject of the relevant studies of the efficacy of booster maintenance sessions.
An early study of aversion therapy with chronic alcoholics (Vogler, Lunde, Johnson, & Martin, 1970), compared subjects assigned to either a conditioning-only group, a booster group, or to a control group. Shocks were administered to both treatment groups with the booster group receiving extra aversion sessions. The booster group was superior to the conditioning-only group and the control group in the median number of days to relapse. Although no difference was reported between the two treatment groups in the proportion of relapses, there were less relapses in both these groups compared to the control group. A major problem of this study was that subjects from the conditioning only group were also requested to attend booster sessions to offset drop-outs from the booster group. As a result, the booster group may have consisted of individuals who were highly motivated for treatment while the conditioning group contained those who did not return for their boosters. Of the eight scheduled booster sessions, the median number kept was three.

Assertiveness:

The effects of booster sessions in maintaining treatment gains for subjects who participated in a six-week group assertiveness training program were recently investigated (Ridel, Fenwich, & Jillings, 1986). Booster sessions consisting of role-playing, instruction and review, cognitive
restructuring, problem solving, and encouragement were held once per month from two to six months post-treatment. The booster subjects exhibited superior maintenance of treatment gains on measures of depression but were not significantly different from the no-booster group on measures of assertiveness and anxiety.

Depression:

Baker and Wilson (1985) examined the effects of group booster sessions in maintaining treatment gains in clinically depressed individuals who had received cognitive-behavioral therapy. Subjects were randomly assigned to one of three groups after treatment; cognitive-behavioral booster, non-specific or no booster. Booster sessions for the two booster groups were held at two weeks, and then once monthly for three months post-treatment. Although the results at post-test, and four and five month follow-up did not show boosters to be significantly better in preventing relapse, there was a trend supporting maintenance of improvement for subjects in both booster groups. To explain the non-significant findings, the authors note that "it is possible that too few subjects responded sufficiently well in the first place to demonstrate any effects of booster sessions on relapse" (p. 341). That is, the degree to which booster sessions are effective is contingent to an extent upon initial treatment success.
Hypertension:

Booster sessions have also been used as a strategy for maintaining treatment gains following treatment for hypertension. Agras, Schneider, and Taylor (1984) found booster sessions to be as effective as undergoing the full treatment program in subjects who had relapsed following relaxation training. Subjects who had relapsed after undergoing eight weeks of relaxation training were randomly assigned to a booster follow-up group or a group receiving another 10 sessions of the original treatment. The booster sessions were conducted bimonthly in a small group format involving problem solving and supervised relaxation practice. No significant differences were found between the groups at the six month follow-up at which time both groups showed a drop in blood pressure.

Smoking:

There are numerous reports of studies using booster sessions to promote the maintenance of smoking cessation. In one of the first studies, Relinger, Bornstein, Bugge, Carmody, and Zohn, (1977) randomly assigned subjects who had received nicotine aversion training to one of three maintenance groups; booster aversion group, telephone booster group, and no-booster control group. The results at one week, and at one, two, and three months post-treatment showed no significant differences between groups in the mean number of cigarettes smoked per day. Individual group analysis showed, in fact, that subjects in the booster groups relapsed significantly
more from three months to follow-up than the control subjects. The authors reported that differences in the rationale given to subjects participating in the booster and control conditions could have confounded the results. Booster subjects were given a rationale that may have led them to attribute their initial treatment gains externally "you perform best when given periodic aid and supervision". In contrast, the control subjects were told that they were "independent individuals who work best on their own". The internal attributions of the control subjects may have engendered greater expectations and confidence, and therefore enhanced maintenance of treatment gains while the external attributions of the booster group may have promoted relapse.

Some evidence has been found that booster sessions help to maintain smoking abstinence. Following group therapy, subjects who had stopped smoking were randomly assigned either to a no-booster control group or one of two booster conditions (Brandon, Zelman & Baker, 1987). The booster sessions, held at two, four, eight, and 12 weeks post-test provided exposure and coping-response training: one group was given rapid smoking trials as well. Smoking consumption was measured monthly for the first four months and bimonthly thereafter to one year post-treatment. Statistical differences were found between the booster and control groups only at the three and four month periods although the data shows that the booster groups did
better than the control group at every follow-up. Neither booster condition was superior to the other.

Positive results have also been reported by Lando (1977) who randomly assigned subjects to receive either a one week aversion therapy or aversion therapy plus seven booster maintenance sessions. The booster sessions involved multiple components including contracts, aversion boosters, and structured group support. The six month follow-up results showed that, in comparing the groups, more of the booster subjects were abstinent.

A later study by Lando (1982) supported previous findings that a multi-component booster program enhanced maintenance on measures of smoking consumption after aversion therapy.

Weight Loss:

Stuart (1967) successfully pioneered the use of booster sessions in maintaining weight losses of 12 to 41 pounds one year after subjects had received five weeks of treatment.

Kingsley and Wilson (1977) administered booster sessions as a means of maintaining weight loss in women who had received one of three treatments. After treatment the women were randomly assigned either to a booster group, held at two, five, nine, and 14 weeks post-treatment, or a no-booster group. Results at three and six month follow-up showed significant maintenance of weight loss in the booster group. By the nine and 12 month follow-ups there was no difference between the booster and no-booster groups in weight reduction.
Hall, Hall, Borden and Hanson (1975) found that post-treatment booster sessions conducted by the initial therapist facilitated the maintenance of weight loss. In an extension of the earlier study by Hall et al. (1975), Hall, Bass, and Monroe (1977) assigned subjects to three follow-up conditions after 10 weeks of self-management therapy: minimal contact, monitoring with minimal contact, and bi-monthly group contact. At two and six months post-treatment, the continued contact subjects had lost significantly more weight than the minimal contact or monitoring-only subjects. The booster treatments were terminated at six months post-treatment, and by the one year follow-up the booster group had relapsed and there were no differences between the groups. These studies indicate that boosters may facilitate maintenance only for the period of their duration.

An alternate maintenance format was examined by Perri, Shapiro, Ludwig, Twentyman, and McAdoo (1984). In this study, randomly assigned subjects who had completed therapy (either non-behavioral therapy, behaviour therapy, or behaviour therapy plus relapse prevention) were reassigned to one of two maintenance conditions: six months therapist contact by mail and phone or no contact. The results indicated greater maintenance of weight loss for the group receiving therapist contact when the initial treatment had been non-behavioral therapy or behaviour therapy plus relapse prevention. Furthermore, subjects receiving therapist contact boosters
reported greater use of strategies learned in treatment than those who had no contact. These results suggest that extended therapist contact may augment adherence to treatment techniques.

The preceding research provides some evidence that booster sessions do augment maintenance following behavior and non-behavior therapy with a range of clinical concerns. Even less is known about how booster sessions enhance the durability of change, however, a few assumptions have been made. Hall and Hall (1980) suggest that booster sessions serve to gradually decrease dependency on treatment contacts and shift attribution of change from the therapist to the client.

According to Whisman (1990) the maintenance function of boosters may operate through three mechanisms. First, anticipating receiving booster sessions might reduce client anxiety at termination about not being able to sustain gains made in treatment and promote positive expectations that change will be maintained. Second, the expectation of future therapist contact could prompt clients to continue to practice and implement the skills acquired in therapy. Third, booster sessions may serve to consolidate skills acquired in therapy thereby increasing clients' mastery in applying the skills independently in daily life.

Marital Therapy:

Booster sessions have been suggested as a maintenance strategy following behavioral marital therapy, however, no
such study could be found in the literature. Jacobson et al. (1987) propose to conduct a pilot study of an extended version of BMT where an initial phase of weekly therapy sessions are followed by a second phase in which booster sessions are offered.

Similarly, this study may well instigate further research on the efficacy of booster sessions in maintaining couples' gains following non-behavioral marital therapy.

**FADING AS A MAINTENANCE STRATEGY**

The goal of most therapy programs is that the treatment contingencies (reinforcers) be eventually withdrawn while the treatment gains continue to persist. A common strategy used in behaviour therapy to promote the continuation of improvement, is the gradual fading out or withdrawal of treatment contingencies so that naturally occurring reinforcement and the observation of models take over the task of maintaining behaviour.

Several investigators support fading of the therapist's influence as an important factor in maintaining therapeutic change.

Jacobson et al. (1986) state that:

Since the ultimate goals of [marital] therapy involve changes in the relationship that persist independently of the therapist, it is important that his or her influence
begin to subside once the skills have been acquired. The influence of the therapist must fade, couples must assume increasing responsibility for managing their own affairs, and the therapy session itself must gradually cease to be the focus of all important relationship issues. (p.36)

Bogner and Zielenbach-Coenen (1984) investigated the effects of the systematic inclusion of a fading procedure in a behavioral marital therapy program. The study was based on the notion that changing the therapy schedule would enhance the stability of treatment gains and boost couples' competence in coping with their own problems after therapy. Twenty-four couples were randomly assigned to two experimental groups: one receiving conjoint reciprocity training (RT) without fading, and one receiving the reciprocity training with fading (RTF), and a waiting-list control group. The authors used a fading procedure in which sessions were spaced at one, two, and three weeks apart respectively.

Outcome was assessed on measures of quarrelling, expression of tenderness, communication, general happiness, and number of problems. The results showed the faded group to be significantly superior to the other groups at post-test on all measures except communication. No significant differences were found between the treatment groups at two and eight month follow-ups. Inspection of group means, however, showed the superiority of the faded group on all variables after therapy and at both follow-ups. The authors attribute the non-
significant findings to the small numbers of couples in both experimental groups. This explanation was supported by further analysis using individual, rather than couple, scores which revealed the faded group to be significantly more effective on all variables across all occasions.

According to Kazdin and Wilson (1978), the durability of change can be enhanced by the addition of specific intervention strategies to the basic treatment approach. Because fading shows promise as a strategy for enhancing the maintenance of treatment gains, a fading procedure was employed in the scheduling of booster sessions in this study. Fading is expected to augment the maintenance of treatment gains largely through the same three mechanisms that Whisman (1990), hypothesized to operate in the booster strategy; reducing termination anxiety, motivating practice, and consolidating skills.

Following Bogner and Zielenbach-Coenen (1984), the four booster sessions in this study were spaced at one, two, and three weeks apart. With this fading procedure, the length of time between sessions gradually lengthens before termination to provide a maximum of at home practice to help spouses incorporate the skills into their everyday life and ease the anxiety of ending therapy.

In this study, fading is operationalized in the gradual withdrawal of both the therapist influence and the booster sessions themselves. For instance, as the four booster
sessions progress, the therapists' didactic role is reduced; gradually giving way to a less directive facilitating/encouraging role. This allows increasing time during the sessions for behavioural rehearsal of the communication skills. Also, fading the booster sessions provides couples with increasing time between the sessions for home practice, during which they apply the skills to issues arising in their relationship.

COMMUNICATION SKILLS TRAINING

Background

Couples communication skills training programs, like marital therapy in general, can be categorized according to their theoretical origins. The two major schools of communications training are; behavioral marital therapy (BMT) which emphasizes social learning mechanisms, and the non-behavioral perspective which takes a psychoeducational approach.

The BMT communication training programs are by far the more widely studied of the two approaches, due to the empirical traditions of behavioral research. BMT originated with the application of social learning (Bandura, 1977) and behaviour exchange principles to the treatment of marital problems. The Social Learning Cognitive model (Jacobson, & Holtzworth-Munroe, 1986) (SLC) has evolved from classical BMT
which emphasized the primacy of the social environment and cognitive-perceptual processes in determining human behaviour. SLC has broadened the theory to account for the role of emotion and cognitive processes such as attribution in marital distress. In the large, however, marital problems are attributed to specific behavioral skill deficits which underlie reciprocal negative or punishing behaviour exchanges between spouses. The goal of treatment is the remediation of these behavioral deficits through the teaching of specific skills particularly in the area of communication, problem-solving and positive behaviour exchange. Behaviour change and skill training in remain the hallmarks of the SLC approach to marital therapy (Jacobson et al., 1986).

Non-behavioral couples communication skills training programs, such as Relationship Enhancement (RE) (Guerney, 1977), have emerged from the psychoeducational or psychological skills training therapeutic framework, a recently proposed alternative to the remedial model of behaviour therapy. The psychoeducational model "emphasizes the teaching of interpersonal attitudes and skills which the individual applies to solve present and future psychological problems and to enhance his satisfaction with life" (Guerney, Stollak & Guerney, 1971, p.227). The model realizes the primary goals of prevention and personal development through a range of systematic programs (representing various theoretical orientations) designed to teach clients the skills they need
to manage their lives more effectively. It is important to note that such programs were originally aimed at couples whose interactions were basically sound but who sought to "enrich" their relationship. Research has now shown that marital enrichment programs are also successful with couples experiencing greater marital distress (Giblin, Sprenkle, & Sheehan, 1985).

The Need for Couples Communication Skills Training

Behavioral research supports the need for communication skill training in marital therapy. Distressed couples exhibit a number of communication skill deficits. These couples exchange higher frequencies of punishers and lower frequencies of rewards than happily married couples and are more reciprocal in their exchanges of negative behaviour (Gottman, 1979). Distressed couples also tend to react more intensely to immediate events, whether positive or negative, than their non-distressed counterparts. In other words in distressed relationships, when one partner is negative, the other is more likely to reciprocate in kind, setting up an escalating cycle of punitive interactions.

Analyses based on spouse reports of behaviour in the home show that communication problems are better predictors of daily marital satisfaction than complaints in other areas (Jacobson and Moore, 1981). Moreover, there is evidence that dysfunctional communication patterns both precede and predict
marital distress (Markman, 1979). The implication of the research on marital distress and communication is that both spousal dissatisfaction with communication and spousal deficiency in communication skill appear to be directly related to the overall health of a relationship (Jacobson et al., 1986).

The need to develop communication skills training programs for couples has been driven by the growing recognition by clinicians and researchers of the role of communication in relationship satisfaction. Several studies demonstrate that techniques that increase couple's communication skills are the most effective component of any form of marital therapy (Jacobson et al. 1987, Jacobson and Margolin, 1979, Gurman and Kniskern, 1981). Given the existing support for communication skills training in facilitating marital therapy outcome it is not surprising that it is "perhaps the one therapeutic technique found universally in marital therapies, regardless of theoretical orientation" (Jacobson et al., 1986).

The primary purpose of the James (1988) study described earlier was to "test, whether or not the addition of a communication skills training (CT) component would enhance the effectiveness of EFT." In selecting from the range of existing communication skill training packages for one to form a basis for his CT component, James (1988) sought an empirically proven
program that would be clinically compatible with the non-behavioral EFT.

The Compatibility of Emotionally Focused Therapy and the Relationship Enhancement Program

Emotionally focused therapy is an experiential-systemic approach to couples therapy developed by Greenberg and Johnson (1986). The theory combines the experiential traditions of psychotherapy, which emphasizes the role of affect and intrapsychic experience in change, (Perls, Hefferline, & Goodman, 1951; Rogers, 1951) with systemic perspectives, which emphasize ecological context and the role of communication and interactional cycles in maintaining dysfunctional relations.

In developing EFT, Greenberg and Johnson (1986) also acknowledge credit to Virginia Satir's (1967) affective-systemic approach to family therapy. Satir (1967) emphasizes the importance of the emotional system of the family and through therapy promotes the congruent communication of feelings and needs by all family members.

The role of the EFT therapist is to bring intra-psychic experience into present awareness and determine how these experiences impact the marital relationship. The goal of EFT is have both partners, in the supportive presence of each other, access and express previously unacknowledged feelings and needs underlying their negative interaction cycle.
In other words, EFT facilitates partners understanding of how past experiences are brought into the relationship and how they affect interaction. Through mutual sharing of intimate thoughts and feelings, partners are able to understand each other's behaviour in new ways that free them from previous negative cycles, enabling them to be more supportive of one another. This can lead to positive changes in the way the partners perceive themselves and each other as well as in their communication with each other.

In EFT, communication problems are considered to be the result of motivational problems. Couples are not seen to lack communication skills per se, but to be blocked in their ability to communicate by negative interaction cycles.

According to Greenberg and Johnson (1986), new affective experiences underlie change in communication problems:

Affectively oriented encounters create change in communication style as partners experience themselves and their partners differently. The experiencing of new feelings helps motivate problem-solving and good communication practices. The perception of the partner as more accessible and responsive also motivates and facilitates open communication (p. 258).

Drawing from the humanistic, interpersonal, behavioural, and psychodynamic traditions in psychotherapy, Relationship Enhancement (RE) (Guerney, 1977) achieves the primary goal of prevention through a psychoeducational approach in which
clients acquire the skills to enhance their own relationships and solve their own current and future problems.

RE assumes that a lack of understanding of self and other is at the root of personal maladjustment and relationship conflict. The goal of RE is to promote understanding by building empathetic relationships through the teaching of specific communication skills.

In RE, communication problems are viewed as the results of deficits in communication skills. Change in communication problems is effected by couples learning new skills that eliminate these skill deficits. The role of the RE therapist is to actively teach and model the new communication skills.

Despite having different views of and solutions to communication problems, EFT and RE are compatible treatment programs. EFT unblocks communication by changing negative interaction cycles allowing the positive communication skills partners do have to surface in the relationship. RE serves to teach new skills to partners whose desire to communicate positively may be inhibited by specific skill deficits. The two approaches are complementary because EFT unblocks communication by changing negative cycles and RE enhances communication by teaching new skills (James, 1988).

The Effectiveness of RE

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Guerney's (1977) Relationship Enhancement (RE) program is a prominent psychoeducational enrichment program in the non-behavioural tradition of couples communication skills training. Unlike communication training in BMT which has focused primarily on problem-solving, RE emphasizes the role of affect in relation to the teaching of listening and empathic responding skills.

Evidence of rapprochement between the behavioral and non-behavioral schools is reflected in recent program developments. Both the RE and BMT programs now combine the direct teaching of skills and behaviour rehearsal with techniques to promote mutual affective expression of intimate feelings. According to a recent review of marriage enrichment programs (Chartier, 1986), RE is the most effective enrichment approach to couples communication skills training. A thorough review of the literature supporting RE conducted in conjoint group format is presented elsewhere, (James, 1988). Many of these studies report methodological problems associated with sample attrition and subjects serving as own controls. The only two studies that include no-treatment controls and report follow-up data are described here.

In the first of two conjoint group comparative studies employing control groups, Weiman (1973) randomly assigned 36 couples to one of three conditions: RE, Reciprocal Reinforcement therapy (RR), and a wait-list control. Couples in both treatment conditions received eight sessions held
weekly. Outcome was assessed on self-report measures of marital adjustment, marital communication and cooperativeness. Observer ratings of in-session process were also taken (in RE, ratings of Speaker and Listener roles; in RR, ratings of positive statements).

The results of this study were that both treatments showed significant increases over the control condition on all outcome measures. No significant differences were found between the two treatments on any of the outcome measures. The mean gains achieved by both treatments were maintained at ten week follow-up.

In a later comparative study, Brock and Joanning (1983) randomly assigned a mildly distressed couples to three conditions: an RE program, a Minnesota Couples Communication Program (MCCP), and a no-treatment control. Each treatment group received ten two-hour sessions conducted weekly. The outcome measures were: the Dyadic Adjustment Scale, (DAS) (Spanier, 1976), the Marital Communication Inventory (MCI) (Bienvenu, 1970), and the Communication Rapid Assessment Scale (CRAS) (Joanning, Koval, & Brewster, 1984). The DAS measure yielded a total scale score as well as separate scores for the four subscales: Affectional Expression, Cohesion, Consensus and Satisfaction.

The results at post-test showed the RE condition had made significantly greater gains than the control condition on all the dependent measures, with the exception of one sub-scale of
the DAS. The MCCP condition was not significantly different than the control.

RE showed differential treatment effects on the DAS and MCI.

At three-month follow-up, RE was significantly superior to the control on three sub-scales of the DAS, and the CRAS, while MCCP showed no greater gains than the control. RE showed differential treatment effects on two subscale of the DAS, and CRAS.

Two conclusions arise from this study: (1) that the RE communication training program was more effective than MCCP, and that RE was partially successful in maintaining post-treatment gains at follow-up (James, 1988).

RE is also supported in a one-couple conjoint study comparing it with various alternate therapies (Baker, & Guerney, 1985). These authors randomly assigned 24 clinic couples to a RE condition or to a therapists' Preferred Approach condition in which experienced marital therapists used their preferred approaches. The dependent measures assessed marital adjustment, interpersonal relationships, and marital communication.

Results at outcome supported RE as highly significantly superior to the alternate therapies on all dependent measures. The authors attribute the greater magnitude of gains reported in this study relative to previous studies to the greater severity of distress of couples in their study. Baker et. al. (1985) also suggest that RE may be more effective with more
severely distressed couples than their better adjusted counterparts. Maintenance effects could not be determined in this study and no follow-up data was reported.

Giblin, Sprenkle, and Sheehan (1985) reach similar conclusions about the effectiveness of RE in their meta-analysis of outcome studies of marital enrichment programs. These authors report that RE studies have an average effect size of .96 compared to one of .42 for the Minnesota Couples Communication Program (MCCP).

Although RE has received substantial empirical validation at outcome, as James (1988) asserts, "the effectiveness of RE in maintaining post-treatment gains requires further investigation" (p.50.) particularly in the one-couple conjoint format.

**JAMES' (1988) CT COMPONENT**

The CT component in the James (1988) study was derived from Guerney's (1977) Relationship Enhancement (RE) program. The fourteen original couples received four one-hour sessions of CT after having first received eight sessions of EFT. CT was administered after the EFT treatment for two main reasons: first, it was expected that EFT would alter couples negative interaction cycles and increase intimacy making couples more willing to learn communication skills, and second, the preventative function of communication skills would serve
clients in resolving their own issues after treatment termination (James, 1988).

The CT component draws upon the RE approach with regard to format, skills and therapist activities. Sessions in the CT component were administered according to the structured format of RE: homework review, didactic skill presentation, behavioral rehearsal, debriefing and homework assignment. The CT therapists adopted an active teaching stance using RE techniques of modelling, prompting, structuring and reinforcement. CT was designed to teach three basic communication skills or modes outlined by Guerney (1977): (1) the expressive mode, (2) the empathetic responder mode, and (3) mode switching.

The function of the expressive skills are to help partners: (a) understand their emotional-psychological-interpersonal wants and needs better; (b) express such wants and needs to each other in ways that do not incite unnecessary anxiety, defensiveness, conflict, and hostility, but instead tend to engender respect, understanding, and cooperation; and (c) deal with conflicts and problems with less anxiety, promptly, assertively, positively, and in terms of their own specific goals and needs (Guerney et al. 1986).

The listening sub-skills of understanding and acceptance are central to the skill of empathetic responding. With these skills partners learn to respond to one another in such a way as to convey an understanding of each other's internal frame
of reference. Guerney (1986) states that empathetic responding skills serve to help partners (a) understand the emotional-psychological-interpersonal needs of each other better, and (b) elicit from each other more prompt, frequent, honest, relevant, open, trusting, and intimate behaviours.

Mode switching is designed to facilitate partners' ability to: (a) keep track of the which mode each partner is in at a given time, and (b) understand when and how to switch from one mode to another in a coordinated manner a (Guerney, 1984).

Aspects of the EFT model (Greenberg, 1984) were also incorporated into the CT component. According to James (1988), EFT contributes a theoretical understanding of the expression of primary, underlying emotions to the expressive mode. Here the accent is on teaching couples how to recognize these feelings and express them in the relationship. Couples were taught the EFT concept that the expression of underlying emotions brings to awareness certain wants and needs and partners were given practice in expressing these to each other.

The following is a summary of the four sessions in James' (1988) CT component:

**Session One**
- homework assignment of reading the *Couples Communication Training Manual* is reviewed.
- audio tape of a couple discussing a relationship issue with and without using the skills is presented and discussed.
- couples are taught the two basic communication skills of expression and empathetic responding and the co-ordinating skill of mode-switching.
- communication skills are rehearsed and debriefed
- assigned homework is to practice the skills at home before the next session.

**Session Two**
- home practice is reviewed.
- couples are taught the concept of primary underlying feelings and the value of expressing these feelings in the relationship.
- couples are taught the concept of "felt-needs" (i.e., needs that emerge from an awareness of underlying feelings) and the value of expressing these needs in the relationship.
- communication skills are rehearsed with particular attention to the expression of underlying feelings and felt-needs and debriefed.
- assigned homework is to practice the skills at home.

**Session Three**
- assigned homework is reviewed.
- couples are taught to distinguish between secondary or reactive anger and primary or underlying anger and guidelines for expressing primary anger.
- communication skills are rehearsed with emphasis on the expression of primary anger/resentment.

Session Four
- no new skills are presented
- couples practice to consolidate their skills
- the importance of ongoing regular practice and using the skills in various everyday life situations is discussed.
- therapy terminates with therapists and couples expressing their appreciations and saying goodbye.

For a complete description of the CT component see the CT Therapist Training Manual and the CT Couples Manual, (James, 1988).

THE CT BOOSTER SESSION COMPONENT

The CT booster session component in this study is an abbreviated form of James' (1988) CT component. In keeping with the original CT component, the booster sessions will follow RE's structured format of homework review, didactic concept review, behavioural rehearsal, debriefing, and homework assignment. A detailed outline of the session contents is provided for therapists to follow in the Booster Component Manual (see Appendix B.)

The booster component will place a greater emphasis on the behavioural rehearsal or practice part of the format in order to enhance the couple's mastery and maintained use of
the skills independently of the therapist once the booster sessions terminate. In order to provide couples with more active skill rehearsal, sessions will be lengthened to 90 minutes and the didactic, and debriefing segments will be curtailed.

The following is a summary of the contents of the four booster sessions as outlined in the Booster Component Manual.

**Session One**
- review homework of reading the Couples Communication Training Manual
- assessment of the current skill level
- brief review of the two communication skills of expression and empathetic responding and the skill of mode switching
- behaviour rehearsal of skills on topic chosen by couple
- debrief session
- homework of at-home practice assigned for next session

**Session Two**
- review homework
- brief review of the value of expressing primary underlying feelings (particularly primary anger or resentment) and emergent wants and needs in the relationship.
- behaviour rehearsal
- debrief session
- homework of at-home practice assigned

**Session Three**
- review homework
- no concepts presented by therapist
- behaviour rehearsal (minimum therapist input)
- debrief session
- homework assigned

Session Four

- review homework
- behaviour rehearsal (minimum therapist input)
- debrief rehearsal
- termination with emphasis on importance of regular practice and generalizing use of the skills by applying them in various contexts.

CONCEPTUAL HYPOTHESIS

The preceding review establishes that, in EFT marital therapy research, there is a trend toward post-treatment regression of couples gains after the termination of treatment. This finding verifies that the maintenance problem, recognized in psychotherapy, behaviour therapy and behavioral marital therapy research, also exists in non-behaviour marital therapy. This review also provides evidence that booster sessions show promise as a strategy for enhancing the maintenance of couples treatment gains after marital therapy.

In James' (1988) study, couples who received EFT+CT regressed between post-test and four-month follow-up
assessments, a trend that this researcher theorized would continue in the absence of intervention.

Given these findings, it is hypothesized that administering four CT booster sessions after termination of the EFT+CT treatment would: 1) increase regressed couples' scores on the dependent measures, 2) enhance the short term maintenance of the booster session effects, and 3) enhance couples' long term maintenance of the EFT+CT treatment gains achieved in James' (1988) study. Treatment gains are indicated by improvement of couples' mean scores from pre-treatment to post-treatment on the dependent measures: the Dyadic Adjustment Scale, the Communication Scale, and Target Complaints.
CHAPTER III: METHODOLOGY

This chapter begins with a summary of the methodology of the study conducted by James (1988). The design, subjects, therapists, research procedures, and research instruments of the booster study are then described. The chapter concludes with a description of the data analysis procedures employed in the study.

METHOD OF JAMES' (1988) STUDY

Design

The current study follows from a constructive outcome study by James (1988) who investigated the therapeutic effectiveness of adding a communication skills training component (CT) to an Emotionally Focused Therapy (EFT) for 28 volunteer couples.

The design in the James (1988) study was "a three factor, 3x7x3 (treatment-by-therapist-by-occasion) mixed model with therapist nested within treatment, treatment fully crossed with occasion and repeated measures over three occasions as the third factor" (James, 1988, p. 57). The three levels of the treatment factor were EFT, EFT+CT, and a wait-list control. The three levels of the occasion factor were pre-test, post-test, and four-month follow-up.
The design of the James (1988) study is illustrated as:

01  RG1  T1  02  03
01  RG2  T2  02  03
01  RG3  02  03  T2

In this design 01, 02, and 03 refer to the pre-test, post-test, and four month follow-up testing occasions respectively. The subjects were randomly assigned to two treatment groups, G1, and G2, and a wait-list control group, G3. The treatment groups received EFT and EFT+CT, denoted by T1 and T2, respectively. Couples in the EFT group received 12, one-hour sessions of EFT. Couples in the EFT+CT group received eight, one-hour sessions of EFT and four one-hour sessions of CT. Couples in the control group received the EFT+CT treatment after data collection at 03.

Subjects

James (1988) solicited volunteer couples from advertisements and interviews that were published in local newspapers. The couples who responded were subjected to an initial telephone screening and an interview to ensure they met research criteria. Of the 42 couples who were selected, 14 couples were randomly assigned to each of the two treatment groups (EFT and EFT+CT) and 14 couples were assigned to the wait-list control group.

The screening criteria for couple selection were:
1. Partners must have co-habited for a minimum of twelve months and be currently living together.
2. Partners must have had no immediate plans for divorce.
3. Partners must not have received psychiatric treatment or psychiatric hospitalization within the last two years.
4. Partners must have had no reported problems with drugs or alcohol.
5. Partners must have had no reported primary sexual dysfunction.
6. Partners scores on the Dyadic Adjustment Scale must not have fallen in the severely distressed range (one partner scored below 100, Burger & Jacobson, 1979; or a couple score of less than 70).
7. Partners had to consent to research procedures, testing and audio-video taping.
8. Partners must not have been currently involved in any other psychological treatment, either as individuals or as couples (James, 1988).

Demographic data on subjects' education, occupation, income, years married, age, number of children, and previous counselling were reported in the study.

Therapists

The therapists in the study were graduate students from the Department of Counselling Psychology who volunteered to receive clinical training in marital counselling. Five male
and nine female therapists were randomly assigned to treatment groups. James (1988) reported data regarding therapist education, training in couples counselling, general clinical experience, and clinical experience counselling couples.

Therapist Training

Therapists in both treatment conditions received 12 hours of training in EFT (James, 1988). Therapists in the EFT+CT condition received an additional 11 hours of training in couples' communication using the CT manual which is presented in the appendices of the James (1988) study. The training was conducted by the principle investigator and supervised by Dr. John Friesen, Department of Counselling Psychology. The training format included a written manual, supervised instruction, modelling, audio-tape of intervention, behavioral rehearsal, and feedback. All therapists received approximately one hour of individual supervision and participated in ongoing group supervision sessions offered during the main experimental period. Therapists in the EFT condition received the CT training during the post-treatment period.

Research Measures

The dependent measures in the James study were: the Dyadic Adjustment Scale (DAS), Passionate Love Scale (PLS), Communication Scale (CS), Psychosocial Intimacy Questionnaire (PIQ), and Target Complaints (TC). In addition, a post-
treatment structured interview was conducted to assess clients reactions to treatment.

Implementation Check

Treatment integrity, the extent to which treatment is carried out as intended (Kazdin, 1986), was insured through implementation checks conducted throughout the study. Video tape analysis of session content was provided in group and individual formats. Independent raters were trained to use separate implementation checklists (for the EFT and CT components) to assess whether therapists adhered to the treatment as outlined in the EFT and CT manuals. Randomly selected segments (one per couple) representative of the four CT sessions were evaluated by two of the raters.

METHOD OF THE BOOSTER STUDY

Research Design

This experiment investigates the effects of receiving four CT booster sessions on the dependent measures of marital adjustment, communication, and target complaint reduction for 10 of the 14 couples who received the EFT+CT training in the James (1988) study.
As described above, James' (1988) study was illustrated as:

01 RG1 T1 02 03
01 RG2 T2 02 03
01 RG3 02 03 T2

This study employs a comparative experimental time-lagged crossover control design for two equivalent groups in the booster treatment phase. The design can be illustrated as:

<table>
<thead>
<tr>
<th>James' study</th>
<th>Booster study</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 T2 02 03</td>
<td>04 RG1 T3 05 06</td>
</tr>
<tr>
<td></td>
<td>04 RG2 05 T3 06</td>
</tr>
</tbody>
</table>

where T2 is the EFT+CT treatment and 01, 02, and 03 denote the pre-test, post-test, and four-month follow-up occasions in the James (1988) study. The booster treatment crossover phase of the design begins at 04 which is the pre-test occasion in the booster study. R is the random assignment of the 10 EFT+CT couples to the two booster treatment groups: the first-booster group (FB), and the delayed-booster group (DB). 05 and 06 denote the booster post-test and four-month follow-up occasions for the FB group. For the DB group, 05 and 06 denote the post-wait and booster post-treatment occasions, respectively.

In this crossover design, both groups are assessed on the DAS, CS, and TC measures at 04, prior to intervention. Then,
the booster treatment is administered to the FB, or experimental group, while the DB group serves as the wait-list control. After the FB group receives the booster sessions, outcome measures are taken for both groups at 05. At this point, the treatment crossover takes place whereby the DB group becomes the experimental group receiving the booster treatment, and the FB group becomes the post-treatment follow-up group, receiving no intervention. The experiment is completed when outcome measures are taken at 06 for both groups after the second intervention.

The couples in this study were tested on three dependent measures: the Dyadic Adjustment Scale, the Communication Scale, and Target Complaints. The main unit of analysis is the mean couple score which is the sum of the individual partner scores divided by two. The mean couple score is used as the unit of analysis in previous outcome studies of EFT (James, 1988; Hansen, 1990) and in marital therapy outcome research in general (Jacobson, et. al.,1986).

Rationale of the Crossover Design

Crossover comparative experimental designs make it possible to compare the relative effectiveness of a treatment intervention with a control condition for all subjects without denying any subjects the treatment (Epstein & Tripodi, 1977). Equivalent groups of clients are given the treatment intervention at lagged intervals so that all groups serve as
experimental or control groups at different times. The groups are compared after the first intervention and then the intervention is switched or crossed over to the other groups and they are measured again. In the resulting analysis, the effectiveness of every intervention on every experimental group is measured. Within this design, the intervention after the crossover essentially serves as a replication of the initial experimental intervention.

The crossover design has a number of advantages. First, as a randomized experiment it provides superior control of threats to internal validity, thus allowing the researcher to infer a causal relationship between the variables. Random assignment to treatment groups controls for the confounding effects of selection bias, instrumentation and statistical regression by ensuring group equivalence (Cook & Campbell, 1979). The use of control groups limits the effects of contemporary history, maturation process and subject mortality. The potential effects of pretesting are reduced by using standardized measures for assessing group two on the two wait-list occasions (Epstein & Tripodi, 1977).

Cook and Campbell (1979) describe four threats to internal validity that randomization does not control: diffusion or imitation of treatment, compensatory equalization, compensatory rivalry, and resentful demoralization. These threats arise from the subjects' perception of treatment inequities in the experiment. It is
unlikely that these threats affected this study. It appears that the crossover design effectively limits confounding effects that randomization alone does not control (Higgins, 1990).

Imitation of the treatment can be ruled out because couples in both groups had received the communication skills training prior to the experiment. Compensatory equalization does not affect this study because all of the couples received exactly the same treatment only at different times. In the initial interview, couples were told they would receive treatment commencing either in February or March, a difference of approximately eight weeks. Neither demoralization nor compensatory rivalry seem likely factors because all of the couples expected and received the same treatment. None of the couples in the study knew each other nor did they have any contact with each other making comparison of treatment among couples unlikely. In addition, spouses were tested individually to ensure that they did not influence each other in the testing situation.

Another advantage of the crossover design is that it increases external validity because it contains a built-in replication (Epstein & Tripodi, 1977) of the experiment when the treatment is crossed over to the control group. Cook and Campbell (1979) state that "In the final analysis, external validity is...like construct validity...a matter of replication" (p. 78). These authors suggest that "consecutive
replication within a single study offers some test, however restricted, of whether a causal relationship can be corroborated at two different times" (Cook & Campbell, 1979, p.78).

The replication in this design also helps to counter the problem of low power or Type II error which increases when sample sizes are small. Type II error, or the error of overconservatism, occurs when the null hypothesis of no difference between groups is falsely accepted. Cates (1985) contends that the experimental results are confirmed when they repeat in equivalent groups from the same population who receive the same treatment at different times. In other words, reproducing the treatment effect in a second group in the crossover design reduces the probability of making a claim that there is no treatment when, in fact, there is. In the booster study, where the sample size is small, the crossover design decreases the possibility of overconservatism. Because each subject also acts as his or her own control the source of error due to variance between subjects is reduced as comparisons are made within subjects. Hills and Armitage (1979) state, "A comparison of treatments in the same subject is expected to be more precise than a comparison between subjects and therefore to require fewer subjects for the same precision" (p.7).

Perhaps the most compelling advantage of the crossover design in clinical practice is that it is ethically sound.
Unlike most comparative experimental designs, it allows control group comparisons without denying treatment to any subject or client. Epstein and Tripodi (1979) conclude that "the unique advantage of this design is that it provides the scientific rigor of a control group experiment without requiring any service denial to any...clients " (p. 165).

Subjects

The target population in this study was the couples who had received the EFT+CT training in the James (1988) study. The accessible population was the couples in James' (1988) T2 group who had received the EFT+CT training. The sample population was the couples in the T2 group who agreed to participate in the study. All of the couples in this study were comprised of male/female partnerships.

Three months after James (1988) took the four-month follow-up measures, each of the couples in the T2 (EFT+CT) group received a letter inviting them to participate in a study of couple's communication and receive four additional communication skills training sessions. The couples were told that, if they chose to participate, they had a 50% chance that their sessions would commence in either February or March 1989. Couples were informed that, as research participants, they would be required to complete three brief questionnaires on three occasions; approximately a 20 minute task each time.
Four of the 14 couples from the study chose not to participate. Three of these declined because of work commitments and the fourth offered no explanation.

This investigator applied James' (1988) screening criteria to the 10 couples who volunteered for the current study to ensure that they were still representative of the original sample. The couples were randomly assigned using a random digits table to either the FB group or the DB group. There were five couples in each group. Couples were then randomly assigned to therapists. Demographic data were obtained for each couple participating in the study (see Appendix B).

Therapists

Four therapists participated in this study. These therapists had previously administered the CT component in the James (1988) study. Therefore they had received the initial CT training and, supervision and were experienced in implementing CT with couples. The therapists received three hours of additional training in administering the CT booster treatment in this study. The training was conducted by the researcher under the supervision of James (1988), co-author of the CT manual. The therapists were also given two-hours of group supervision after the booster treatment phase began.

The therapist group, which included the researcher, was comprised of two male and two female students; all of whom
were enrolled in either magistral or doctoral programs in the Department of Counselling Psychology. These therapists volunteered to participate in this study to gain further experience in marital counselling.

Experimental Procedures

Pre-test measures were completed for all 10 couples during an initial interview conducted by the researcher. During the interview couples were told of the general procedures for the treatment and testing activities in the study.

Couples were then randomly assigned to treatment and therapist. The researcher inspected the initial DAS scores for each couple following assignment to group to ensure the groups were evenly matched with regard to couples' level of distress. The mean DAS score was 96.4 for the FB group and 96.9 for the DB group with a pooled standard deviation of 12.62. The differences between group means were not statistically significant.

Next, the therapists for the FB group contacted their assigned couple to arrange the treatment sessions. Post-test measures were obtained after FB couples completed their last sessions. Couples assigned to the DB group completed the dependent measures on the post-test occasion as well. Then the treatment crossover occurred; the DB group, formerly the control condition, received the booster sessions and the FB
group, formerly the experimental group, entered became a no-treatment follow-up group. In both groups, the administration of the four booster sessions was spaced over a period of seven weeks according to the aforementioned fading procedure. Couples in the DB group received their first booster session approximately eight weeks after the FB group had commenced treatment. After their last session, couples in the DB group completed their post-booster measures. Also on this occasion, the FB couples received their follow-up measures by mail. The couples completed the measures and returned them in the enclosed envelopes. No follow-up measures were obtained from the DB.

The partners in each couple were tested individually to ensure that they did not influence each other during the testing period.

Couples completed three measures on each testing occasion: (1) The Dyadic Adjustment Scale (DAS)

(2) Communication Scale (CS)

(3) Target Complaints (TC)

Each couple received four, 90-minute Communication Skills Training booster sessions conducted at the Education Clinic on the U.B.C. campus. Couples in the FB group received their sessions in the period February to March 1989, and couples in the DB group received their sessions in the period March to April 1989. The sessions were spaced one, two, and three weeks apart respectively to promote maintenance of the communication
skills and increase the couples' independence from the therapist. Four was the least number of booster sessions needed to establish this fading technique as described in a study by Kingsley and Wilson (1977). All sessions were administered according to the CT Booster manual and audio taped to verify proper implementation (see Appendix B for a description of the manual).

Research Measures

The Dyadic Adjustment Scale (DAS) (Spanier, 1976)

The DAS is a measure of marital adjustment that can be used to assess the level of adjustment experienced by either the individual or the couple to their relationship.

Factor analysis supports the four components of marital adjustment that comprise the DAS subscales: Dyadic Consensus (the degree to which partners agree on important issues), Dyadic Cohesion (the degree to which partners mutually engage in activities), Dyadic Satisfaction (the degree of partners' present satisfaction and commitment to the relationship), and Affectional Expression (the degree to which partners express affection and sex in the relationship) (Spanier, 1976). The total scale has 32 items with a score range of 0 to 151 and a reported reliability (Chronbach's alpha) of .96 (Spanier, 1976).

According to Spanier (1976), the DAS has the following types of validity: content validity (determined by judges on
the basis of theoretical dimensions), discriminant validity (discriminates between married and divorced populations), concurrent validity (correlates with the Marital Adjustment Test, Locke & Williamson, 1958), and construct validity (conforms to a theoretical structure.

Spanier (1976) established norms for married (114.8, SD 17.8) and divorced (70.7, SD 23.8) couples based on mean total couple scores. Couples were the unit of analysis in this study.

*Communication Scale (CS) (Olson, Fournier, and Druckman, 1985)*

The CS is a ten-item subscale in a marital inventory called ENRICH (Evaluating and Nurturing Relationship Issues, Communication, and Happiness). The CS assesses an individual's feelings and beliefs about marital communication.

The authors report an internal consistency (Cronbach's alpha) of .68 based on a sample of 672 couples, and a test-retest reliability of .90 based on a sample of 115 individuals.

The validity of the CS derives from PREPARE, a premarital inventory (Fournier, 1979) for which the subscale was originally developed. Fournier (1979) reports that the CS was significantly correlated with the Marital Adjustment Scale (Locke & Williamson, 1958).
Target Complaints (TC) (Battle, Imber, Hoehn-Saric, Stome, Nash and Frank, 1966)

The TC is an individualized measure that evaluates treatment effectiveness on the basis of the degree of resolution of the three presenting problems or target complaints identified by the individual prior to treatment. Mintz and Kiesler (1982), two reviewers of this measure, report improvement ratings on the TC to be effective outcome measures in various therapy studies. This measure is recommended by Waskow and Parloff (1975) as a core instrument for use in psychotherapy outcome research.

The TC is comprised of three Likert-type scales on which the subject rates the amount of change on three major problems in their relationship. Battle et al. (1966) report that this measure correlated significantly with four other outcome measures, establishing its concurrent validity. The face validity of the TC derives from the process of subjects spontaneously generating their own target complaints.

The authors also report reliability data from two studies: one in which subjects' rankings of problems from pre and post interviews were significantly correlated (Spearman's rho = .68) and another in which showed consistency in target complaints reported to different interviewers.

In the James study (1988) couples were asked to identify and prioritize three specific relationship issues that they
wished to resolve in therapy. At post-treatment they were asked to rate the degree of improvement on these complaints.

Data analysis was based on the client's ratings of improvement of the primary target complaint only, to correct for Mintz and Kiesler's (1982) observation that variation in the severity of the primary problem is less likely than variation in the severity of the second and third complaints. From this, James (1988) reasoned that the overall score could tend to be more highly correlated with peripheral complaints rather than with the primary problem. The same analysis procedure will be used in the booster study.

**Post-treatment Structured Interview**

The researcher conducted a structured interview with each couple at the end of therapy to explore their reactions to the CT booster sessions and assess their perceptions of the impact of the sessions on the relationship. The interview questions were addressed to each partner consecutively, and their verbal responses were recorded in writing. See Appendix C for a copy of the interview questionnaire.

**Implementation Check for the Integrity Of Treatment**

Kazdin (1986) interprets the integrity of treatment as the extent to which treatment has been carried out as intended. He has identified the following steps as being necessary to ensuring treatment integrity: (1) therapists are
trained to carry out the treatment procedures, (2) procedures are implemented to ensure that therapists continue to adhere to treatment procedures once therapy has commenced, (3) an assessment is conducted of how the treatment was actually carried out.

In this study the following steps were taken to ensure treatment integrity:

1. Therapists were given a CT Booster Session Manual outlining the booster treatment intervention.
2. Therapists received a three hour training session on the experimental and treatment procedures conducted by the researcher.
3. Therapists were given group supervision; individual supervision was given as requested.
4. Therapists were required to audio or video tape each session. Taped segments of therapy sessions were randomly selected for review by the researcher who used a CT implementation checklist (Guerney, 1977) to determine the extent to which the therapists adhered to the CT Booster manual. The CT implementation checklist defines seven CT and eight non-CT therapist interventions. The CT interventions were: reinforcement, structuring, modelling, encouraging/prompting, encouraging a mode switch, trouble shooting, and other non-codeable interventions consistent with CT. The non-CT interventions were: directive lead, interpretation, suggestion/explanation, encouragement
approval, personal criticism, inappropriately directed therapist responses, and failure to correct. The unit of analysis used in the rating the tape segments was a "meaningful" therapist's statement. According to Guerney (1977), a meaningful statement excluded those instances when the therapist's statement was not an intelligible expression, such as when the therapist was interrupted.

DATA ANALYSIS PROCEDURES

The analysis of the data was conducted in two parts: first, a preliminary analysis to establish a baseline prior to administering the booster sessions; and second, an analysis of the treatment effects of the booster sessions.

Preliminary Analysis

A preliminary analysis was conducted prior to the analysis of booster-treatment effects for the purpose of establishing the relationship between the James (1988) study and this study. This analysis provided a baseline against which to compare the hypothesized treatment and maintenance effects of the booster intervention.

The preliminary analysis in this study took the following form:

O1    T2    O2    O3    O4
where T2 represents the EFT+CT treatment. 01, 02, and 03 represent the pre-test, post-test, and four-month follow-up occasions in the James (1988) study and 04 represents the booster pre-test occasion in the current study. The preliminary analysis involved three analyses incorporating data from the James (1988) study: a repeated measures ANOVA, a trend analysis, and Neuman-Keuls pairwise comparisons.

First, a repeated measures ANOVA was performed on the 10 participating couples scores over the four occasions indicated above. This analysis was done to establish that EFT+CT had a significant treatment effect.

Second, a trend analysis was performed to establish, as a baseline, the pattern of change in couple mean scores across the four occasions. James (1988) reported regression in scores four months after the CT intervention. This analysis was performed because the downward trend indicating post-treatment regression of EFT+CT gains was expected to continue until the booster pre-test occasion. It was important to obtain an overall picture of the decline in scores over time since it was hypothesized that the booster sessions would reverse this trend. In other words a reversal in the downward trend after the booster intervention would support the efficacy of booster maintenance sessions in reversing post-treatment regression that had begun after termination of the EFT+CT treatment.

Trend analysis is deemed appropriate where there is a continuum underlying the levels of the independent variable.
Glass & Hopkins, 1984). These authors state that trend analysis allows the statistical examination of the shape of the curve that results when the means of the dependent variables are plotted for the levels of the independent variable. In this case, couples' scores are plotted against time. Trend analysis can be "more informative than multiple comparisons" (Glass & Hopkins, 1984, p. 386) which tend to fragment the overall continuum in the data into parts. Since such a continuum exists in the data in this study, trend results could enhance the interpretation of the multiple comparisons.

The third task in the preliminary analysis was to conduct Neuman-Keuls pairwise comparisons of the group means over the aforementioned occasions. The purpose of this analysis was to establish which means were significantly different after finding a significant F statistic with the repeated measures ANOVA.

Design Considerations in the Analysis of Booster Effects

The crossover design first appeared in agricultural research conducted in the 1940's, and has been used extensively in clinical pharmacological research since then. More recently, crossover designs have appeared in clinical psychological research on the effectiveness of different therapies (Kazdin, 1980). One study has been conducted using the crossover design (Higgins, 1990) to evaluate training and
maintenance of training effects. This is also the aim of the current study.

Despite the apparent longevity of this popular, scientifically rigorous and ethical design, there seems to be little written about the statistical treatment of the data. Armitage and Hills (1982) note that "One might have thought that its statistical properties were...well documented. However, it is difficult to find adequate discussions of the design in textbooks" (p. 119).

Epstein and Tripodi (1977) also neglect to specify the data analysis procedures to use with the crossover design. However, they do suggest four comparisons relevant to an experiment, like this study, with one intervention strategy and two comparison groups. First, both groups are pre-tested on the dependent measures prior to intervention to establish group equivalence. Second, as in classical comparative experimental/control group design, pre/post-test comparisons between and within groups are made, after the first intervention, to test for treatment effects. Third, comparisons made within and between groups after the treatment crossover replicate the experiment and determine whether treatment affected the groups equally. Fourth, comparisons at post-test, and follow-up within the FB group indicate whether treatment has been maintained over time.

Figure 1 is a schematic representation of the two-factor, time-lagged crossover experimental design used in this study.
The two levels of the experimental independent variable, factor A (group), are first-booster and delayed-booster. The treatment phases in both groups are indicated by the shaded bars. Factor A is a between-group fixed factor. Factor B, occasion, is a fixed, within-groups, repeated-measures factor. The three levels of factor B (occasion) are 04, 05, and 06.

<table>
<thead>
<tr>
<th>Factor B</th>
<th>Testing Occasion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor A</td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td></td>
</tr>
<tr>
<td>First-booster Group (FB)</td>
<td>1</td>
</tr>
<tr>
<td>Delayed-booster Group (DB)</td>
<td>4</td>
</tr>
</tbody>
</table>

Figure 1. Design of the Six Cell Means Used To Test the Research Hypotheses.

Subjects and therapists are random factors. Treatment was fully crossed with group. The random factor, therapist, was not included in this design because the same therapists did not deliver treatment to the same couples over all six measurement occasions.

In Figure 1, the numbers 1 to 6 represent the cells of the 2X2 ANOVA designs used to test the hypotheses in the booster study. The cells, which represent all possible combinations of levels of factor A and factor B, each contain five observations, one for each couple in the group.
To test the research hypotheses in this study it was important to employ a data analysis procedure that would compare the differential effects, on two equivalent groups, of administering identical treatments at different times. Higgins (1990) study of empathy training with medical students suggested an appropriate model for testing such hypotheses with data from a crossover control experiment.

Statistical Treatment of the Data

Following Higgins (1990) strategy, I performed a series of 2X2 repeated-measures analyses of variance with one between-groups factor (group) and one within-groups repeated factor (occasion). These analyses were repeated three times, once for each dependent measure: DAS, CS, TC. The .05 level of significance was utilized to test the F ratios for the main effects. A dependent t-test was used to test for long term maintenance effects at the .05 level of significance. Next, a series of dependent t-tests were performed to test for wait-list and short term maintenance effects. To be sure there was no change, a relaxed alpha of .25 was used for these contrasts.

Relaxing alpha increases the likelihood of a Type I error, but reduces the likelihood of a Type II error. In the case of wait-list and maintenance effects, it was more important to reduce Type II error in order to make a claim that the scores did not change over time. That is, if the
results are statistically insignificant, even with the large alpha, a claim can be made that there are no wait list effects and scores were maintained over time.

Effect sizes were also calculated for the group means. "The effect size metric is a useful descriptive estimate of the magnitude of the difference between means when the dependent variable has an arbitrary numerical scale" (Glass and Hopkins, 1984, p.373). Effect sizes express the magnitude of treatment gains in standard deviation units (Cohen, 1988). Following the procedure suggested by Cohen (1988), the effect sizes in this study were calculated by taking the difference in the pre-test and post-test means and dividing it by the pooled pre-treatment standard deviation.

Designs Used to Test the Research Hypotheses

This section presents each research hypothesis followed by the corresponding statistical hypotheses specifying the cells used to test that hypothesis. The statistical hypotheses are stated in null form.

H1(a): Couples in the first-booster group, who receive booster sessions, will demonstrate statistically significantly higher scores at the booster post-test occasion on measures of marital adjustment (DAS), communication (CS), and target complaint reduction (TC) than will waiting-list couples in the delayed-booster group.
The null hypothesis is stated as:
\[ H_0: (u_a - u_t) - (u_b - u_e) = 0 \]

This analysis is a classic pre-post design with a control group. The purpose of this analysis was to determine whether there is a treatment effect and whether this effect is greater for the treated FB group than for the untreated DB control group. The Group-By-Time interaction was of primary interest in testing this hypothesis. That is, if the booster treatment has a sufficient effect, this interaction would be significant.

H1(b): Couples in the first-booster group, who receive booster sessions, will demonstrate statistically significantly higher scores on the DAS, CS, and TC on the booster post-test and booster follow-up occasions than will waiting-list couples in the delayed-booster group.

The null hypothesis is stated as:
\[ H_0: \frac{(u_a + u_e)}{2} - \frac{(u_b + u_e)}{2} = 0 \]

This analysis is a post-test only design with a control group. The purpose of this analysis was to test whether the booster treatment effects were maintained for the FB group in the post-treatment follow-up period and whether the booster treatment effect was greater for the treated group than the untreated group. This analysis compared post-test and follow-up cells for the FB group with pre and post-wait cells for the
DB group. The Group main effect was the contrast of primary interest in testing this hypothesis.

H1(c): Couples in the first-booster and delayed-booster groups, who receive booster sessions at different times, will demonstrate a statistically significant increase in scores on the DAS, CS, and TC between the pre-test and post-test occasions.

The null hypothesis is stated as:

\[ H_0: (\frac{u_2 + u_3}{2} - \frac{u_1 + u_4}{2}) = 0 \]

This analysis is a pre-post design with replication and no control group. The purpose of this analysis is to test whether treatment has a similar effect for both groups. The contrast of interest here, the Time main effect, would be significant if the groups were equivalent, and the treatment potent.

H2: Couples who are in the delayed-booster control group will not improve on the DAS, CS, and TC during the waiting-list period.

The null hypothesis is stated as:

\[ H_0: u_2 - u_4 = 0 \]

H3: Couples in the first-booster group, who receive booster sessions, will maintain scores on the DAS, CS, and TC between
the booster post-test and booster follow-up occasions. The null hypothesis is stated as:

\[ H_0: u_a - u_2 = 0 \]

**H4:** Couples in the first-booster group, who receive CT booster sessions after termination of EFT+CT, will not differ in scores on the DAS, CS, and TC at the booster post-test and the post-test occasion in the James (1988) study.

The null hypothesis is stated as:

\[ H_0: u_a - u_a' = 0, \text{ where } u_a' \text{ is the mean of the first-booster group assessed at James' (1988) EFT+CT post-treatment occasion, and } u_a \text{ is the mean at the booster post-treatment occasion.} \]

In this study, Hypothesis 1(c) is the most powerful test of a booster treatment effect because the pre-booster scores for both groups are collapsed and compared with the collapsed post-booster scores. In this way the 10 treated couples post-booster scores are compared with 10 untreated couples pre-booster scores. In contrast, the designs in Hypothesis 1(a) and 1(b) compare only five treated couples scores with 15 untreated couples scores.

**Hypothesis 2** tests wait-list effects and hypothesis 3(a) and (b) test short and long term maintenance effects respectively.
CHAPTER IV: RESULTS

The results of the data analyses are presented in this chapter. The chapter opens with a description of the sample and a statement on the research procedures. Next, the results of the preliminary analyses are discussed. The results of the analyses pertaining to the research hypotheses are then presented under three sub-sections: treatment effects of booster sessions, wait-list effects, and short and long term maintenance effects. A summary of the results concludes the chapter.

IMPLEMENTATION CHECK

To ensure that the treatment intervention was administered consistently by therapists, a CT Booster Treatment manual documenting the research protocol was given to all therapists. The therapists received three hours of training and three hours of group supervision in implementing the CT Booster intervention. In addition, the researcher randomly selected 10 minute segments of the behavioral rehearsal section of the ct booster sessions and rated therapist statements as CT or non-CT interventions according to the CT Component Implementation Checklist (Guerney, 1977). The CT Component Implementation Checklist is described in the
James (1988) study. A total of 10 sessions representative of the four booster sessions were reviewed by the researcher.

Of the 141 therapist statements rated, seven were categorized as non-CT. This proportion falls within limits of the criterion of five per cent for treatment integrity set in the James (1988) study.

**TESTS OF GROUP EQUIVALENCE**

Because the sample in this study consisted of 10 of James (1988) 14 original EFT+CT couples, it was necessary to establish that couples who participated were not characteristically different from the couples who did not participate. Results of an independent t-test on the mean scores at the initial four-month follow-up showed no significant differences between participants (M = 100.5) and non-participants (M = 98.5) [t(12) = .870, p < .25]. The equivalence of the participants and non-participants allows the results from this study to be generalized with confidence to all of the couples in James (1988) study.

It was also important to ensure group equivalence on the dependent measures before treatment. An independent t-test was performed on the pre-test means of both groups in the booster study. No significant differences were found between group one (M = 96.4) and group two M = 96.9), [t(8) = .06, p < .25].
RESULTS OF PRELIMINARY ANALYSES

Table 1 presents the results of a repeated measures ANOVA on the 10 participating couples mean DAS scores over four occasions: pre-test, post-test, and four month follow-up in the James (1988) study and booster pre-test in this study. Results showed a significant difference in mean scores over time, $[F(3, 27) = 13.80, p < .0001]$. This finding supports the initial success of the EFT+CT intervention.

Following the repeated measures ANOVA, the Student Neuman-Keuls method of pairwise comparisons was used to determine which means were significantly different. Table 2 shows these results. A significant difference was found between James' (1988) EFT+CT pre-test and each of the other occasions; EFT+CT post-test, EFT+CT follow-up, and booster pre-test. Significant differences were also found between EFT+CT post-test and EFT+CT follow-up, and EFT+CT post-test and booster pre-test. No significant differences were found between EFT+CT follow-up and booster pre-test.

Results of the trend analysis indicated that there was a significant quadratic trend $[F(2, 27) = 14.20, p< .0001]$ in the data spanning the period from James' (1988) EFT+CT pre-test to the booster pre-test in this study. A summary trend analysis is presented in Table 3.
Figure 2: Mean Scores on Dyadic Adjustment Scale at EFT+CT Pre-test, Post-test, and 4-month Follow-up, and Booster Pre-test, Post-test and 4-month Follow-up.

Figure 3: Mean Scores on Communication Scale at EFT+CT Pre-test, Post-test, and 4-month Follow-up, and Booster Pre-test, Post-test and 4-month Follow-up.
Figure 4: Mean Scores on Target Complaints at EFT+CT Pre-test, Post-test, and 4-month Follow-up, and Booster Pre-test, Post-test and 4-month Follow-up.
Table 1. Repeated-Measures Analysis of Variance of DAS Mean Scores Across Four Occasions: Pre-test, Post-test and 4-month Follow-up in the James (1988) Study, and Pre-booster in the Booster Study

<table>
<thead>
<tr>
<th>Occasion</th>
<th>X</th>
<th>post-test</th>
<th>X</th>
<th>4-month f. u.</th>
<th>X</th>
<th>SS</th>
<th>df</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>87.85</td>
<td>107.70</td>
<td>100.55</td>
<td>96.65</td>
<td>2052.97</td>
<td>3,27</td>
<td>13.80</td>
<td>.0001*</td>
<td></td>
</tr>
</tbody>
</table>

Note: 1. n = 10
* = significant at .0001

Table 2. Student Newman-Keuls Analysis of DAS Mean Scores Across Four Occasions: Pre-test, Post-test and 4-month Follow-up in the James (1988) Study and Pre-booster in the Booster Study

<table>
<thead>
<tr>
<th>Occasion</th>
<th>X</th>
<th>N</th>
<th>Grouping</th>
<th>df</th>
<th>MSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>87.85</td>
<td>10</td>
<td>A</td>
<td>27</td>
<td>49.605</td>
</tr>
<tr>
<td>Post-test</td>
<td>107.70</td>
<td>10</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-mo. f.u.</td>
<td>100.55</td>
<td>10</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-booster</td>
<td>96.65</td>
<td>10</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: 1. per-contrast alpha = .05
2. Means with the same letter are not significantly different

Table 3. Trend Analysis of DAS Means Scores Across Four Occasions: Pre-test, Post-test, and 4-month Follow-Up in the James (1988) study, and Pre-booster in the Booster Study

<table>
<thead>
<tr>
<th>Contrast</th>
<th>df</th>
<th>SS</th>
<th>MSE</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>T Linear</td>
<td>1</td>
<td>185.28</td>
<td>1339.34</td>
<td>3.74</td>
<td>.0638</td>
</tr>
<tr>
<td>T quadratic</td>
<td>1</td>
<td>1410.16</td>
<td>1339.34</td>
<td>28.43</td>
<td>.0001*</td>
</tr>
</tbody>
</table>

Note: 1. n = 10
* = significant at .0001
Table 4. Table of Means and Standard Deviations for Dependent Measures with Couple Mean Score as the Unit of Analysis.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Occasion</th>
<th>FB Pre-booster</th>
<th>Post-booster</th>
<th>4-month F. U.</th>
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<tr>
<td></td>
<td>Group</td>
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</tr>
<tr>
<td></td>
<td>DB</td>
<td>Pre-wait</td>
<td>Post-wait</td>
<td>Booster</td>
</tr>
<tr>
<td>DAS</td>
<td></td>
<td>96.40 (16.21)</td>
<td>104.50 (15.15)</td>
<td>94.20 (22.96)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>96.90 (9.04)</td>
<td>90.80 (9.89)</td>
<td>95.40 (11.95)</td>
</tr>
<tr>
<td>CS</td>
<td></td>
<td>29.90 (7.66)</td>
<td>34.90 (8.51)</td>
<td>32.40 (8.85)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26.60 (2.41)</td>
<td>26.10 (2.16)</td>
<td>27.80 (4.48)</td>
</tr>
<tr>
<td>TC</td>
<td></td>
<td>3.50 (1.12)</td>
<td>4.30 (.75)</td>
<td>3.80 (.91)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.40 (0.65)</td>
<td>2.80 (1.04)</td>
<td>3.30 (1.48)</td>
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</tbody>
</table>

Note: 1. n = 10
2. FB = First-booster group
   DB = Delayed-booster group
3. DAS = Dyadic Adjustment Scale; CS = Communication Scale; TC = Target Complaints
Table 5. Analyses of Variance for Each Dependent Variable for Hypothesis 1 (a): Comparison of Cells 1 & 2 with 4 & 5

5(a) Dyadic Adjustment Scale

<table>
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<th>F</th>
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<td><strong>Between</strong></td>
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<tr>
<td>Groups [G]</td>
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<td>2405.06</td>
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<td>300.63</td>
<td></td>
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<td><strong>Within</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time [T]</td>
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<td>8</td>
<td>36.34</td>
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</table>

* = significant at .05

5(b) Communication Scale

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<td>Groups [G]</td>
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<td>63.57</td>
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<td></td>
</tr>
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<td><strong>Within</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Time [T]</td>
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<td>25.31</td>
<td>3.51</td>
<td>.098</td>
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<td>1</td>
<td>37.81</td>
<td>5.24</td>
<td>.051</td>
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<td>8</td>
<td>7.22</td>
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</table>
5(c) **Target Complaints**

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<td>1.01</td>
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<td>.66</td>
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Table 6. **Analyses of Variance for Each Dependent Variable for Hypothesis 1(b): Comparison of Cells 2 & 3 with 4 & 5**

6(a) **Dyadic Adjustment Scale**

<table>
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<td></td>
<td></td>
<td></td>
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<td>151.25</td>
<td>.40</td>
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<td>376.89</td>
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<td></td>
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<td><strong>Within</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time [T]</td>
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<td>336.19</td>
<td>3.64</td>
<td>.093</td>
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<td>22.05</td>
<td>.24</td>
<td>.638</td>
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<td>92.34</td>
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6(b) Communication Scale

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<th>p</th>
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</thead>
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<td>Between</td>
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<td></td>
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<td>266.45</td>
<td>3.88</td>
<td>.084</td>
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<td>68.69</td>
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<td>Within</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td>Time [T]</td>
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<td>.95</td>
<td>.359</td>
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<td>1</td>
<td>5.00</td>
<td>.42</td>
<td>.535</td>
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<tr>
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<td>8</td>
<td>11.91</td>
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6(c) Target Complaints

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<td></td>
<td></td>
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<td>4.51</td>
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<td>.85</td>
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<td></td>
</tr>
<tr>
<td>Within</td>
<td></td>
<td></td>
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</tr>
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<td>Time [T]</td>
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<td>1.51</td>
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<td>G x T</td>
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<td>.01</td>
<td>.02</td>
<td>.889</td>
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<td>Error</td>
<td>4.85</td>
<td>8</td>
<td>.61</td>
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</tr>
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* = significant at .05
Table 7. **Analyses of Variance for Dependent Variable for Hypothesis 1(C): Comparison of Cells 1 & 5 with 2 & 6**

7(a) **Dyadic Adjustment Scale**

<table>
<thead>
<tr>
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<th>F</th>
<th>p</th>
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<td><strong>Between</strong></td>
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<td>8</td>
<td>340.26</td>
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<td><strong>Within</strong></td>
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<td></td>
<td></td>
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<td>Time [T]</td>
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<td>201.60</td>
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<td>27.15</td>
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</table>

* = significant at .05

7(b) **Communication Scale**

<table>
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<th>F</th>
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<td>67.13</td>
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</tr>
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<td><strong>Within</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time [T]</td>
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<td>1</td>
<td>56.11</td>
<td>5.20</td>
<td>.052</td>
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<td>1</td>
<td>13.61</td>
<td>1.26</td>
<td>.294</td>
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<td>86.40</td>
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<td>10.80</td>
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</table>
7(c) **Target Complaints**

<table>
<thead>
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<th>MS</th>
<th>F</th>
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<td>Groups [G]</td>
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<td>5.83</td>
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<td>8</td>
<td>.36</td>
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* = significant at .05
Table 8. Results of Paired t-Tests for Short-term Maintenance and Wait-list Effects: Hypotheses 2 (Comparison of Cells 2 & 3) and 3 (Comparison of Cells 4 & 5)

<table>
<thead>
<tr>
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<th>DAS</th>
<th>CS</th>
<th>TC</th>
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<tbody>
<tr>
<td>Maintenance Effects (Cell 2 vs cell 3)</td>
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<tr>
<td>Cell 2 Mean (post)</td>
<td>104.50</td>
<td>34.90</td>
<td>4.30</td>
</tr>
<tr>
<td>Cell 3 Mean (follow-up)</td>
<td>94.20</td>
<td>32.40</td>
<td>3.80</td>
</tr>
<tr>
<td>n = 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>1.35</td>
<td>.85</td>
<td>1.20</td>
</tr>
<tr>
<td>p</td>
<td>.25</td>
<td>.44</td>
<td>.30</td>
</tr>
<tr>
<td>Wait-list Effects (Cell 4 vs Cell 5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cell 4 mean (pre-wait)</td>
<td>96.90</td>
<td>26.60</td>
<td>3.40</td>
</tr>
<tr>
<td>Cell 5 mean (post-wait)</td>
<td>90.80</td>
<td>26.10</td>
<td>2.80</td>
</tr>
<tr>
<td>n = 5</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>1.54</td>
<td>.51</td>
<td>1.08</td>
</tr>
<tr>
<td>p</td>
<td>.20*</td>
<td>.64</td>
<td>.34</td>
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</table>

* = significant at .25

<table>
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<th>CS</th>
<th>TC</th>
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<tr>
<td></td>
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<td>X</td>
<td>X</td>
<td>X</td>
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<td>34.90</td>
<td>4.30</td>
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<td>n= 5</td>
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<td>1.37</td>
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<td>1.37</td>
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<td>p</td>
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<td>.22</td>
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<td>.22</td>
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Note 1. p = .05

Table 10. Effect Sizes For Dependent Measures

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<th>2</th>
<th>3</th>
<th>SD</th>
<th>Size</th>
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<td>96.40</td>
<td>104.50</td>
<td>11.71</td>
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<td>Group 2</td>
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<td>90.80</td>
<td>95.40</td>
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<td>4.08</td>
<td>+1.05</td>
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</tr>
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<td>Group 1</td>
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<td></td>
</tr>
<tr>
<td>Group 2</td>
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<td>26.60</td>
<td>26.10</td>
<td>27.80</td>
<td>+.35</td>
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</tr>
<tr>
<td>Wait-list</td>
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<td></td>
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<td>4.30</td>
<td>.94</td>
<td>+.85</td>
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<td>Group 1</td>
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</tr>
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<td>2.80</td>
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</table>

Note: 1. n = 10
2. SD = pooled pre-treatment standard deviation
TREATMENT EFFECTS OF BOOSTER SESSIONS

The results of analyses of Hypothesis 1(a), 1(b), and 1(c) pertain to the treatment effects of the CT booster sessions. Table 4 shows the group means and standard deviations for the dependent measures over the three testing occasions the booster study. The graphs in Figures 2, 3, and 4 track the trajectory of the trend of group mean scores for each dependent measure, from James' (1988) post-test occasion to the booster follow-up occasion in this study.

Hypothesis 1(a): Couples who are in the first-booster treatment group, will demonstrate significantly higher scores at the booster post-treatment occasion on the DAS, CS, and TC than will waiting-list couples in the delayed-booster group.

Table 5 shows the results of the 2 x 2 repeated measures analyses of variance on the dependent measures for Hypothesis 1(a). The research question here is whether the booster treatment has an effect and whether this effect is greater for the treated group than the untreated group. The comparison of interest in establishing a significant treatment effect is the group-by-time interaction.

**Dyadic Adjustment Scale**

Results of the 2 x 2 ANOVA for the DAS, comparing cells 1 & 2 with 4 & 5, are shown in Table 5(a). The group-by-time interaction is statistically significant \( F(1,8) = 6.94, \)
indicating that the treated FB couples scored significantly higher than the waiting-list couples in the DB group. Inspection of the means in Table 4 shows that the post-test mean for the FB group is higher than any of the other cell means.

The graph of group means for the DAS measure in Figure 2 shows the increase in post-treatment scores at T2 for the FB group. Evidence of a downward trend can be seen in the decline of scores from T2 to T4 for both groups. A reversal of this trend is noted at T5, the post-treatment occasion for the FB group, indicating the effect of the booster treatment. A similar decline is observed for the DB group scores. Here, the decline extends from T2 to T5. A reversal of this trend is observed at T6, the post-treatment occasion for this group.

**Communication Scale**

Table 5(b) shows the results of the 2x2 ANOVA for the CS comparing cells 1 & 2 with 4 & 5. The group-by-time interaction is not statistically significant \(F(1,8) = 5.24, p = .051\), but there was a strong effect in the hypothesized direction. The failure to achieve significance here can be attributed to the low power of the test resulting from the small sample size. Table 4 shows that the post-test mean for the FB group is higher than any other cell mean.

The graph of group means for the CS in Figure 3 shows an increase in the FB group's post-test scores at T5 in contrast to the downward trend in scores established between EFT+CT.
post-test at T2 and the booster pre-test occasion at T4. A similar downward trend is seen in the DB group's mean scores. Here, the decline extends from T2 to T5 with a reversal occurring at T6, this group's booster post-test occasion.

**Target Complaints**

Table 5(c) shows the results of the 2 x 2 ANOVA on TC comparing cells 1 & 2 with 4 & 5. The group-by-time interaction was not significant, \( F(1,8) = 3.73, p = .081 \), but the effect was in the hypothesized direction. Table 4 shows the booster post-test mean for the FB group is higher that any of the other group means, evidence favouring a treatment effect.

The graph of group means for TC in Figure 4 shows a downward trend in scores for both groups from T2 to T4. At T5, after the FB group received the booster treatment, the growth trajectories for the two groups move in opposing directions with the FB group scores increasing and the DB group scores decreasing. At T6, after the booster treatment crossover, both group trends reverse direction as the DB group's scores increase and the FB group's scores decline at follow-up.

These results indicate that the following their booster session, couples in the FB group was superior in levels of marital adjustment, communication and to some extent problem resolving their main problems than the untreated DB couples.
Hypothesis 1(b): Couples who are in the FB group will demonstrate significantly higher scores on the DAS, CS, and TC on the booster post-test and booster follow-up occasions than will waiting-list couples in the delayed-booster group.

Results of the 2 × 2 ANOVA on the dependent measures for Hypothesis 1(b), comparing cells 2 & 3 with 4 & 5, are shown in Table 6. This hypothesis questions whether the initial treatment effects are maintained and remain higher than the pre-treatment control group level. The group main effect is the result of interest.

The Dyadic Adjustment Scale

As Table 6(a) shows, no significant effect was found for DAS, \( F(1,8) = .40, p = .544 \). The small \( F \) obtained for the DAS was likely due to the decline in the FB group's scores at follow-up, a finding contrary to the hypothesized maintenance effect. Figure 2 shows that while the FB group achieved a significant improvement in scores at T5, DB group scores had declined. By the 4-month follow-up, however, the FB group scores had dropped below pre-treatment levels. Table 4 shows that FB mean scores at booster post-test and follow-up were higher than DB group mean at post-wait, just prior to receiving treatment. This indicates that FB couples remained better adjusted in their relationships during the four-month follow-up period than were the untreated DB couples at the end of the wait-list period.
The Communication Scale

The results of the ANOVA for the CS shown in Table 6(b) were not significant, $[F(1,8) = 3.88, p = .084]$, but the effect was in the hypothesized direction. Supporting the claim for maintenance effects on the CS measure, Table 4 shows that FB couples maintained superior gains in communication in the follow-up period in comparison to couples in the wait-list condition. Figure 3 shows that FB group maintained gains in communication during the four-month follow-up period relative to the untreated DB group.

Target Complaints

The group main effect was significant for TC, $[F(1,8) = 5.35, p = .049]$ as shown in Table 6(c). This indicates that the treated couples perception of improvement in their relationship problems at follow-up was significantly higher than that of the untreated couples in the wait-list period. Table 4 confirms that the FB group achieved and maintained superior gains in resolving their main problems during the follow-up period in relation to the untreated DB couples.

Hypothesis 1(c): Couples in the first-booster and delayed-booster groups who receive booster sessions will demonstrate a significant increase in scores on the DAS, CS, and TC when the pre-test and post-test occasions are compared. Using the combined pre/post scores for both groups, this hypothesis tests whether there is a booster treatment effect,
and whether this effect is replicated in both groups. The contrast of primary interest in this analysis is time main effect.

Results of the 2x2 ANOVA on the dependent measures for Hypothesis 1(c), comparing cells 1 & 5 with 2 & 6, are presented in Table 4.

The Dyadic Adjustment Scale

Table 7(a) reveals a significant time main effect for the DAS measure, \( F(1,8) = 7.43, p = .026 \). This indicates that, after the booster treatment, the couples in both groups reported significantly increased levels of marital adjustment in comparison to their pre-test scores.

The Communication Scale

Table 7(b) presents the results of the 2 x 2 ANOVA for the CS. The main time effect was not significant, \( F(1,8) = 5.20, p = .052 \), but there was a strong effect in the hypothesized direction. Table 4 shows that for both groups, the booster post-test mean scores for both groups increase over the booster pre-test scores. A differential increase in scores can be seen in the graph illustrated in Figure 3. Here, the line representing the increase in the FB group scores has a steeper slope than the line representing the gains in the DB group.

It seems that, on the measure of communication, the booster sessions had a greater effect on couples in the FB group than on couples in the DB group. Inspection of the group means in Table 4 confirms this observation.
**Target Complaints**

Table 7(c) shows a significant time main effect for the 2 x 2 ANOVA on the TC, \(F(1,8) = 5.83, p = .042\). This result confirms that, with respect to resolving their target complaints or main problems, the booster treatment was equally beneficial to both groups.

Overall, for both groups the booster post-scores on all measures were different from the pre-scores in the hypothesized direction. The contrast of primary interest, the main time effect, was significant on the DAS, and TC and showed a strong effect on the CS. Examination of the means in Table 4 and the ANOVA results in Tables 7 a-c shows that, both group's post-test scores were superior to the pre-test scores on all measures. Figures 2-4 show that, when occasions 04 and 05 for the FB group are compared with testing occasions 05 and 06 for the DB group, the booster post-test scores are higher than the booster pre-test scores.

For two of the measures, DAS and TC, the plotting of these scores results in parallel lines indicating no interaction. The absence of interaction in these results indicates that the significant treatment gains achieved on the two post-test occasions can be generalized with confidence over both groups.
WAIT-LIST EFFECTS

Hypothesis 2: Couples who are in the delayed-treatment control group will not increase scores on the dependent measures during the wait-list period. Inspection of Table 4 shows that the DB couples scores on all the dependent measures decreased during the wait-list period. Results of a dependent t-test comparing DB group cells 4 and 5 for wait-list effects, are presented in Table 8. A relaxed alpha of .25 was used in this analysis. No significant differences within group over the two occasions were found for the CS (p = .64) and TC (p = .34). Significance is reached for the DAS (p = .20), but this actually reflects a decrease in mean scores for the DB couples during the wait-list period. In other words, this effect is in the hypothesized direction and confirms that waiting-list couples scores did not increase over the two occasions prior to receiving treatment.

MAINTENANCE EFFECTS

Hypothesis 3: Couples who are in the first-booster treatment group will maintain scores on the DAS, CS, and TC between the booster post-treatment and follow-up occasions.

Results of a dependent t-test comparing cells 2 and 3 for short-term booster maintenance effects are summarized in Table 8. A relaxed alpha of .25 was used in this analysis. The
finding of no significant differences within the FB group from post-test to four-month follow-up on any of the dependent measures provides evidence of short-term, four-month, maintenance of booster treatment effects.

It is notable that the DAS result almost reaches significance, however, indicating increased levels of marital satisfaction were not well maintained for the FB group. In fact, as Figure 1 shows, couple scores had dropped below booster pre-test levels by the four-month follow-up. Figure 3 shows that the FB group did maintain increased communication between 05 and 06 with scores remaining above the booster pre-test level. Figure 4 shows that the FB couples perceived that they had maintained improvement in the level of target complaint resolution. The TC scores also remained higher at booster follow-up than at booster pre-test. The decline in scores on the dependent measures for the FB group at booster follow-up is consistent with the post-treatment regression documented in James' (1986) study.

Hypothesis 4: Couples in the first-booster group, who receive CT booster sessions after EFT+CT will not differ in scores on the DAS, CS, and TC at the booster post-test and the post-test occasion in the James (1988) study.

This analysis provides comparison between FB couples' scores at post-treatment in the James (1988) study and the FB couples' scores at booster post-test in the current study-a
comparison necessary to establishing whether the booster sessions served to maintain couples' EFT+CT treatment gains over the long term. These are termed as long term maintenance effects because the booster sessions were administered to the FB group one year after termination of James' (1988) EFT+CT treatment.

Results of the dependent t-tests on the mean scores for the FB group at EFT+CT post-test occasion and at the booster post-test occasion are presented in Table 9. No significant differences were found on any of the measures at \( p = .05 \). Figures 2-4 illustrate these results in graph form. The graphs show that the magnitude of the EFT+CT treatment gains at 02 is equivalent to the magnitude of the CT booster gains at 05 for the FB group. These findings indicate that the booster treatments were potent enough to return the FB couples scores to their EFT post-treatment levels on all measures. The booster sessions therefore maintained couples' initial treatment gains—those achieved through EFT+CT in James' (1988) study.

**EFFECT SIZES**

Effect sizes for the dependent measures in this study are presented in Table 10. The effect sizes in this study were calculated by taking the difference in the booster pre-test
and post-test means and dividing it by the pooled pre-treatment standard deviation.

The magnitude of the effect sizes is larger for the FB group than the DB group over all measures. For example, the FB group gained .69 standard units on the DAS, 1.05 standard units on the CS, and .85 standard units on the TC; the DB group gained .39 standard units on the DAS, .35 standard units on the CS and .53 standard units on the TC. These results support the claim of a significant booster treatment effect.

On all three measures, the magnitude of effect sizes for both groups at booster post-test is substantially larger and in the opposite direction than the effect sizes of the untreated wait-list. That the treated and untreated group means are moving in opposing directions also supports the claim for a booster treatment effect.

**SUMMARY OF QUANTITATIVE RESULTS**

In general, the results of the quantitative data analysis confirm the hypotheses. For Hypothesis 1(a), a significant difference between the treatment and control groups was reported on the DAS (p = .030); the treated group was also superior on the CS (p = .051) and on the TC (p = .089). For Hypothesis 1(b), the FB group maintained scores on the TC that were significantly higher than those of the DB group during the waiting-list period on the TC (p = .049); effects favoring
the FB group during follow-up over the DB during wait-list were also found on the CS, (p = .084). DAS scores were not well maintained in the FB group at four-month follow-up. The replication of pre-post booster effects in Hypothesis 1(c) was supported on the DAS (p = .026), and TC (p = .042); the CS showed a strong effect in the hypothesized direction, (p = .052). Apart from the non-significant DAS result contravening hypothesized maintenance effects, failure to reach significance in the above cases can be attributed to the small sample size, and thus the small number per cell.

Results of analyses of the planned contrasts support hypotheses 2 and 3 at the p = .25 level of significance. No significant wait-list effects were found. The short-term maintenance of booster effects was demonstrated in the FB group when no significant differences were found between the booster post-test and four-month follow-up occasion on any of the measures. That is the FB couples maintained their gains on all measures, and the untreated couples in the wait-list condition did not increase in scores.

The results also supported hypothesis 4, that the booster sessions would enhance the long-term maintenance of EFT+CT gains. The analyses showed that there were no significant differences on the DAS, CS and TC measures between the EFT+CT post-test and booster post-test occasions at the p = .50 level of significance. Results of the preliminary trend analysis indicated a significant quadratic trend for the DAS. This
provided a baseline against which to compare the effects of the booster treatment. The decreasing trend established that the couples had regressed after James' EFT+CT treatment and continued to regress until they received booster sessions.

Overall, the booster sessions increased couples scores on measures of marital adjustment and communication, and reduced target complaints. Gains achieved by the FB group were maintained at four-month follow-up. In contrast, untreated DB couples decreased in scores on all measures during the waitlist period. When the booster sessions were administered to the DB group, these couples also increased in scores on the dependent measures. For both groups, the booster pre-test scores were significantly higher than the booster post-test scores. No significant differences were found between assessments of the FB group at post-test in the booster study and at post-test in the James (1988) study supporting the efficacy of booster sessions in maintaining treatment gains achieved after previous non-behavioral marital therapy. The effect sizes of the booster sessions are larger across all measures for the FB group than the DB group.

QUALITATIVE RESULTS

A structured interview was conducted at post-test to elicit subjects' reactions to the booster treatment. Responses were provided by individuals in both treatment groups (n =
The interview questionnaire is provided in Appendix B. The results of the interview are summarized below.

In response to the question about what it was like to receive the CT booster sessions one year after the initial CT component terminated, individuals reported the following: (1) 85% were surprised at how quickly the skills returned and how easy it was to resume using the skills (2) 80% felt a sense of renewed optimism about being able to communicate better in their relationship (3) 75% realized how beneficial using the skills had been to their relationships. Partners also said that the CT training had helped them to identify and resolve conflict, avoid distancing, and generally, take action to improve their relationships. Some individuals thought that the break between CT regimes helped them to integrate the learning. They described feeling overwhelmed when the skills were presented in the James' (1988) study, had absorbed all the information they could at that time.

In response to the question of whether they had been using the CT skills following termination of James' (1988) CT sessions: 90% of the subjects reported they had not consistently and consciously used the CT skills. The main reasons subjects gave for not using the communication skills were: (1) they had not learned the skills well enough and they lacked confidence in using the skills, (2) they found the process too contrived and stilted, (3) they had not made time for structured practice and lost their skills. A number of
couples reported that they had only attempted to use their skills when conflict situations arose, but their lack of confidence and mastery resulted in failure and they abandoned the skills. A few individuals noted that, although they had not formally or consciously been using the CT format, they recognized that the skills training had positively influenced their communication.

In response to the questions of what they found most helpful about the booster session format, individuals mentioned the following in order of preference: (1) the practice focus of the sessions, (2) the scheduled home practice which improved their skills and renewed their commitment to continue using them, (3) the structure which allowed partners to express negative emotions and address difficult issues constructively, (4) listening to one's partner and being listened to in return enhanced understanding of own and partner's feelings and thoughts, (5) the teaching focus of the sessions, (6) the validation and encouragement of the therapist, (7) incorporating the skills naturally into everyday communication. 60% of the participants mentioned that the fading procedure had been helpful in, providing more time to practice between sessions, enhancing integration of skills into everyday life, enhancing retention of skills over a longer period, and facilitating the termination of therapy.
In response to the question of what impact they perceived the CT booster sessions had on their relationship, 85% said their relationships had improved. None of the subjects said their relationships had deteriorated as a function of the treatment. One couple had decided to separate early in the project but said they had continued attending the sessions because the skills helped them to communicate better in the separation process.

Only three of the 10 couples reported not completing their regular weekly homework practice. In response to the question asking partners to rate how helpful the homework session were in learning the skills, 17 of the 20 subjects rated the homework as "very" helpful. The remaining individuals, who had not completed the homework, rated it as "somewhat" helpful. Overall, partners commented that the homework allowed them to hone their skills and increased their confidence in using the skills independently. Most couples favoured the increase in structured practice in the booster component compared to the amount of practice time in James' (1988) CT component.

Perhaps the most frequently reported difficulty couples had in using the skills, was that alternating listening and responding roles seemed contrived or unnatural. With the extra practice partners were able to integrate the skills more naturally with their own style of communicating.
Of their experience with the booster sessions one subject said, "I think the CT (booster) training is extremely effective, even though I was dubious at first." Summing up a number of similar comments, one couple said "We are able to deal with, solve, talk about, and address problems in our relationship long before they get out of hand. We feel closer since we started; since we got our closets cleaned out. Now that we can get the cards on the table, we feel better equipped to deal with future problems that face us as a couple."
CHAPTER V: DISCUSSION AND CONCLUSIONS

REVIEW OF THE MAINTENANCE PROBLEM

How to maintain change is one of the basic concerns of any approach to therapy, in fact, a number of researchers hold that maintenance or the durability of therapeutic gains is a criterion of therapeutic success (Goldstein et al., 1979; Zielinski, 1978). Examination of outcome research in psychotherapy reveals that maintenance past post-test is rare. In most such encounters, "be they psychodynamic, behavioral, existential, or otherwise... patient improvement neither persists nor generalizes to new settings" (Goldstein et al., 1979, p.1).

Expressing a similar concern with the practice of marital therapy, Cookerly (1980) observed that there were almost no systematic longitudinal follow-up studies in marital therapy to answer his provocative question "Does marital therapy do any lasting good?" (p.1). Gurman et al. (1986) conclude that inasmuch as marital therapy studies have demonstrated the efficacy of marital therapy studies at outcome, there is a need for marital therapy research that extends beyond evaluation at outcome to investigate the process of maintaining change after the formal treatment period.
Regression In Non-behavioral Marital Therapy

The need for research investigating the maintenance of change is especially acute in the area of non-behavioral marital therapy which, compared to its behavioral counterpart, has received little controlled empirical study. The few non-behavioral studies that report follow-up results indicate that, as in behavioral marital therapy, regression or loss of treatment gains is a verified concern.

Table 11 summarizes the results of four recent controlled studies of EFT, the contemporary non-behavioral couples therapy that preceded the CT component in James' (1988) study. Post-treatment regression occurred in all four studies; the two most recent studies (Hansen, 1990) reporting a significant decrease in gains from post-treatment to follow-up.

Table 11. Results at follow-up of EFT Outcome Studies: Mean Couple Total DAS scores

<table>
<thead>
<tr>
<th>Researcher(s)</th>
<th>Pre</th>
<th>Post</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johnson &amp; Greenberg (1985)</td>
<td>92.80</td>
<td>112.70</td>
<td>112.10 (8 wk.)</td>
</tr>
<tr>
<td>Goldman (1987)</td>
<td>86.30</td>
<td>100.10</td>
<td>92.05 (4 mo.)</td>
</tr>
<tr>
<td>Remple (1987)</td>
<td>89.30</td>
<td>105.85</td>
<td>100.20 (1 yr.)</td>
</tr>
<tr>
<td>James (1988)</td>
<td>87.61</td>
<td>103.30</td>
<td>98.11 (4 mo.)</td>
</tr>
<tr>
<td>EFT</td>
<td>88.29</td>
<td>105.60</td>
<td>100.00 (4 mo.)</td>
</tr>
<tr>
<td>Hansen (1990)</td>
<td>86.50</td>
<td>106.80</td>
<td>98.10 (1 yr.)*</td>
</tr>
<tr>
<td>EFT</td>
<td>87.85</td>
<td>107.70</td>
<td>96.65 (1 yr.)*</td>
</tr>
</tbody>
</table>

Note: * = significant difference between post and follow-up occasions (p=.05)
Johnson and Greenberg (1985) report negligible post-treatment to follow-up differences in mean couple scores. The follow-up period in this study was only eight weeks, however, possibly too brief a time to observe the extent of the regression potential.

Considerable levels of post-treatment regression were found by Goldman (1987), Remple (1987), Hansen (1990) and Elbe (1991). James (1988) found that couples in the EFT and EFT+CT groups had also regressed appreciably from post-test to follow-up with drops in scores of 5.19 and 5.60, respectively. This finding was particularly perplexing with regard to the EFT+CT group as the addition of a CT component was hypothesized to enhance the maintenance of treatment gains. The basis of this hypothesis was that the CT component was derived from RE which has a maintenance function. The maintenance of gains after RE, a psychoeducational approach to couples communication training, has received limited partial support over short periods ranging from 10 weeks to three months Weiman, 1973; Brock & Joanning, 1983).

James suggested that EFT+CT couples had regressed in the follow-up period because they had not learned the communication skills well enough to incorporate them into everyday life. Noting that during the post-treatment interview some couples requested additional CT sessions, James (1988) questioned whether booster sessions would enhance the maintenance of gains achieved in therapy. Booster sessions
have shown moderate success in producing maintenance effects after behaviour therapy (Whisman, 1990).

The primary purpose of this study was to investigate whether receiving booster sessions in communication skills training after a combined non-behavioral marital therapy package of EFT+CT would be more effective than no treatment in increasing couples scores on the DAS, CS, and TC measures. It was also of interest in this study whether the booster treatment effects would be maintained in the booster follow-up period. The secondary purpose of the study was to test whether couples who received booster sessions following the termination of James' (1988) EFT+CT treatment would maintain their EFT+CT treatment gains.

DISCUSSION OF PRELIMINARY RESULTS

A preliminary analysis was conducted on the participating EFT+CT couples' DAS scores over four occasions: (1) EFT+CT pre-test, (2) EFT+CT post-test, (3) EFT+CT four-month follow-up, and (4) booster pre-test. The analysis included a repeated measures ANOVA, Student Kneuman-Keuls pairwise comparisons and a trend analyses. The purpose of these analyses was to establish: (1) that the initial EFT+CT treatment had been successful, (2) that couples had failed to maintain their treatment gains after the EFT+CT treatment, and (3) the shape of the trend of the scores across the two studies as a
baseline against which to compare the effect of the booster treatments.

The results of the repeated measure ANOVA pertain to the first purpose of the preliminary analysis. The results were significant \( F(3,27) = 13.80, p < .0001 \) indicating that the initial EFT+CT treatment had been successful for couples participating in the booster sessions. The effectiveness of EFT+CT was important to establish since the extent to which booster sessions can be shown to prevent regression depends, at least in part, on the success of the initial intervention (Whisman, 1990).

The following analyses pertain to the second purpose of the preliminary analysis. The results of the Newman-Keuls pairwise comparisons indicated that there were significant increases between EFT+CT pre-test (87.85) and EFT+CT post-test (107.7) and significant decreases between EFT+CT post-test and EFT+CT follow-up (100.55), and EFT+CT post-test and booster pre-test (96.65). Evidently, couples had made significant gains by post-treatment but had experienced significant regression of their gains four months after treatment. The difference in means between the initial four month follow-up and pre-booster was not significant although inspection of the means in Table 1 shows that couples' scores continued to slip between the two occasions. That couples were experiencing significant losses in treatment gains four months after the
EFT+CT treatment and continued to regress to the booster pre-test occasion one year later, is worthy of concern.

As one criteria for assessing clinically significant change, Jacobson and Follette (1985) established a cutoff score of 97 on the DAS as the score above which couples are considered nondistressed, and below which couples are considered distressed, compared to the general population.

When this cutoff is applied to the change in means across the aforementioned occasions a clearer picture emerges. On the whole, couples had moved from the ranks of the distressed prior to the EFT+CT treatment, to the ranks of the nondistressed after treatment, and then slipped back into the distressed range between the EFT+CT four month follow-up and booster pre-test occasions. The detrimental effect of marital distress on spouses and children is discussed earlier in this study.

The following results relate to the third purpose of the preliminary analysis. A significant quadratic trend was found in the data across the four occasions mentioned above. A quadratic trend features one bend or change of direction in the trajectory of the curve (Glass & Hopkins, 1984).

Illustrated in Figure 2, the first segment of the incline curves upward from EFT+CT pre-test at 01 and peaks at the EFT+CT post-test at 02 in the James (1988) study. After reaching a high at 02, a bend occurs and the next segment of the incline curves downwards through the EFT+CT four-month
follow-up at 03 to the booster pre-test occasion at 04. The bend represents the initial effect of the EFT+CT treatment. The effect of the booster treatment is seen at 05, in the reversal of the declining segment of the curve at booster post-test in the FB group. This reversal runs in a direction contrary to the expected trajectory of the inverted, U-shaped quadratic trend. That such a reversal exists in the absence of an established cubic trend (which would predict a second upward bend), provides evidence of a significant booster treatment effect. In other words, since the quadratic trend in the data ranging from EFT+CT pre-test, at 01, to booster pre-test, at 04, features only one bend, at 02, it must be the booster intervention that produced the second bend or increase in FB group scores at 05. In the absence of intervention, the segment of the incline from booster pre-test to booster post-test would be expected to continue the decline predicted by the significant quadratic trend.

DISCUSSION OF BOOSTER TREATMENT EFFECTS

Results of the analysis of booster effects in this experiment provide support for the hypotheses on at least one of the dependent measures.

Hypothesis 1(a), that the FB couples who received CT booster sessions would achieve higher scores on the dependent measures than the DB control couples, was supported by the
results. Compared to the untreated DB group, the FB group was statistically superior on the DAS (p=.030), and showed an effect in the hypothesized direction on the CS (p =.051) and TC (p=.089). Failure to reach significance on the CS and TC was likely due to the small number of subjects. These results indicate that booster sessions are superior to no treatment in enhancing couples marital adjustment, communication and to a lesser extent in resolving couples main relationship problems or target complaints.

More than increasing scores, when Jacobson and Follete's (1985) cutoff of 97 is applied to the DAS gains in this analysis, booster sessions elevated the FB group's mean from the distressed range (96.4 at pre-test) to the nondistressed range (104.5 at post-test).

Hypothesis 1(b), that couples who are in the booster post-test follow-up group will demonstrate higher scores on the dependent measures than couples in the wait-list control group was partially supported. Booster treatment gains were maintained during the follow-up period at a significantly higher level for the booster couples than the wait-list control couples on the TC (p=.049). Results for the CS showed an effect in the hypothesized direction (p=.084). No significant difference was found between the groups on the DAS (p=.54), indicating that booster treated couples did not maintain superior scores in comparison to the untreated controls on the global measure of marital adjustment four
months after treatment. This finding bears some explanation as the CT boosters were designed to enhance maintenance of gains.

The CT booster sessions emphasize the teaching of the specific skills of expression and empathetic responding which are seen to enhance intimacy by promote understanding of self and other. The use of positive communication skills in the dyadic relationship was expected to enable the couple to solve their own current and future problems and foster intimacy. The results appear to mirror how the CT component is expected to function. Compared to wait-listed DB couples, the FB couples had significantly improved their initial problems at booster post-test and had maintained these gains at the four-month follow-up. The results also indicate that the FB couples attained and retained higher levels of communication than their untreated counterparts. The failure to reach significance on the measure of communication is likely due to the small number of subjects in this analysis.

The FB couples, who received treatment, could have failed to maintain their gains in marital adjustment relative to the wait-listed DB couples for two reasons.

First, as a global measure of marital adjustment, the DAS assesses the extent of affection, agreement, cohesion, and overall satisfaction in the relationship. It is possible that these subscales of marital adjustment are differentially affected by improved communication skills; some may lag behind others, taking longer to improve. For instance, the subscales
tapping the intimacy construct may improve later as the skills of empathetic responding and expression improve the emotional climate and level of self/other understanding in the relationship. It could be that insufficient intimacy had developed between partners in the short term to hold their gains. Perhaps a brief intervention of four booster sessions is sufficient to recapture previous gains but not to sustain lasting change.

How communication skills effect the various dimensions of marital adjustment remains an unanswered empirical question. If there are differential rates of change in different dimensions of marital adjustment, perhaps longer treatment and follow-up periods would reveal maintenance effects.

A second, reason for couples failure to maintain gains made after booster treatment was that the communication skills increased permission in the relationship to express feelings and needs around conflict issues. In fact couples were encouraged to express and resolve intense emotional issues rather than avoid dealing with them. Perhaps the continued efforts of FB couples to raise and deal with their issues independently in the booster follow-up period may have caused increases in some dimensions of marital adjustment and decreases in others. Support for this explanation is provided by the results of James' (1988) analyses of the DAS subscales as well as the DAS total score. The results showed that, at their four month follow-up, the EFT+CT group had dropped below
the EFT group on only the Consensus subscale of the DAS—that which measures the extent of agreement in the relationship.

In this view, the decline in FB group scores on the DAS at booster follow-up could reflect temporary increases in levels of disagreement, and discomfort that are often seen by clinicians to accompany the disruption of old, safe and dysfunctional patterns in couples working on relationship issues. Lending support to this perspective, many couples said in the interview that they were now able to air their concerns and deal with problems that would previously have been suppressed.

If the previous speculation is valid, a longer booster follow-up period may show DAS score increase as couples resolve fundamental disagreements and settle into more functional patterns.

Hypothesis 1(c), that couples who receive booster treatments will increase in scores on the dependent measures, was confirmed by significant results on two of the measures. After treatment, couples in both the FB and DB groups showed significant increases compared to pre-treatment scores on the DAS (p=.026), the TC (p=.042). The CS (p=.052), which showed a strong effect in the hypothesized direction, probably failed to reach significance because of the small sample size. From this analysis it can be concluded that booster sessions were potent enough to show significant treatment effects for both the FB and DB groups. The crossover design provides reliable
evidence that the booster intervention was sufficiently potent by replicating the FB booster effects in the DB group. Evidence of this replication can be seen graphed in Figures 2-4, and in the effect sizes displayed in table 10.

It is important to account for the differential effectiveness of the FB and DB interventions on the communication measures since the training was aimed specifically at enhancing communication skills. Two explanations are offered for the apparently reduced impact of the delayed-booster treatment.

First, three of the five waiting-list couples dropped in scores before receiving the booster sessions. It is possible that, in anticipation of the booster sessions, wait-list couples made attempts to implement the skills they had previously been introduced to and became increasingly disillusioned by their unsuccessful attempts to do so. This explanation was offered during the structured interview by two of the five couples in the group. This explanation seems plausible considering that the majority of these couples reported that they had not used the skills since the CT treatment had terminated. It is also possible that being unable to invoke their previous successes in communicating during the waiting period reduced their expectations of self-efficacy and eventual mastery of the skills. Second, one of the couples in the DB group dropped out before providing booster post-test measures, requiring that the data by
analyzed using an average of their previous scores. Since no booster treatment gain was included in the averaging, the resulting post-booster mean for the DB group was reduced.

**DISCUSSION OF WAIT-LIST EFFECTS**

Hypothesis 2, that couples' scores would not increase in the absence of treatment during the wait-list condition, was confirmed by the statistical analyses. No significant differences were found between the booster pre-wait and post-wait occasions on any of the dependent measures. The established trend toward regression in the scores also supports the hypothesis. The positive magnitude of effect sizes presented in Table 10 confirm booster treatment gains from pre-test to post-test for all measures. The opposing negative magnitude of effect sizes for the untreated wait-list group, indicates regression.

**DISCUSSION OF MAINTENANCE EFFECTS**

Hypothesis 3, that couples would maintain their booster treatment gains in the short term, over the four-month follow-up period is supported by results on all three measures. The data analysis revealed no significant differences between booster post-test and follow-up occasions in the FB group on any of the measures. Inspection of the group means in Table 4
seem to contradict this finding as it appears, at least for the DAS, that couples scores have regressed to below pretreatment levels. This equivocal finding seems to contradict the statistical results supporting maintenance. The trend analysis is helpful in clarifying these apparently conflicting outcomes.

The finding of a quadratic trend in the data from James' (1988) pre-test occasion to the pre-test in the present study indicates that after the initial EFT+CT treatment, couples' scores were on the decline. Extrapolating from the trend line seen in Figure 1 at 04 to the booster post-test occasion at 05, one would expect a continued decline in scores unless a significantly potent intervention caused a reversal. That is exactly what happened in this study. The DB group's scores continued to decline during the wait-list period in the absence of treatment, while the FB group's scores increased. The decline in scores for the FB group in the follow-up period should be interpreted from the perspective of the overall trend in the data not just from inspection of the means.

From the broader trend-based perspective, the decline in FB group scores at booster follow-up may not reflect a drop below pretreatment levels if the DB group's post-wait scores more accurately predict the booster pre-treatment baseline. Compared to the DB group's mean at post-wait, the mean of the FB group at booster follow-up remains higher. Glass and Hopkins (1984) contend that trend analysis results should be
interpreted independently of multiple comparisons as the trend analysis is usually more informative.

Hypothesis 4, that couples receiving booster treatments after termination of James' (1988) EFT+CT treatment would not differ in scores on the dependent measures between the EFT+CT post-test and the booster post-test occasions. The results of this analysis showed no significant differences between the two occasions on the DAS, CS and TC. Booster sessions were effective in maintaining the EFT+CT couples gains in marital adjustment, communication, and target complaint reduction. It is impressive to find that a brief, four booster sessions maintained regressed couples scores at levels equivalent to those initially attained after the 12 sessions of EFT+CT. This finding supports the long term maintenance of booster sessions because approximately one year had elapsed between the termination of EFT+CT and the commencement of the CT booster sessions.

CONCLUSIONS

The preliminary analyses established that couples had significantly regressed in scores between the termination of the EFT+CT treatment and the commencement of the booster sessions. The trend results indicated that couples scores on the dependent measures would continue to decline in the absence of intervention.
In general, the results of the analyses of booster effects support the hypotheses in this study. The conclusions drawn from these analyses are:

1. Booster maintenance sessions after termination of James' EFT+CT treatment significantly increased FB group scores on the measure of marital adjustment (p = .030) in comparison to the wait-list control group. Strong non-significant effects in the hypothesized direction were found on the measures of communication and resolving target complaints.

2. Booster sessions were significantly more effective than no treatment in maintaining the FB couples gains in resolving their main problem or target complaints (p = .049) during the booster four-month follow-up period. A non-significant effect in the hypothesized direction was evident on the CS indicating that couples increased and maintained their communication skills relative to the wait-list control. Four months after the boosters, the FB couples did not maintain their gains on the measure of marital adjustment when compared to control couples. When the maintenance of short-term booster effects was tested in the FB group only, these couples maintained their gains on all measures with no significant differences between booster post-test and follow-up occasions.
3. The untreated DB couples did not increase in scores on the dependent measures during the wait-list period, rather their scores continued to decline on all measures.

4. When booster pre and post-test scores were pooled for both groups, the booster sessions had a significant effect on measures of marital adjustment ($p = .026$) and ($p = .042$) target complaint reduction, and a strong but not significant effect on the measure of communication. That booster effects are replicated in the DB groups in this study attests to the potency of the booster sessions in producing pre-post change with equivalent groups.

5. On all three dependent measures, the magnitude of effect sizes for both groups at booster post-test is substantially larger and in the opposite direction than the effect sizes of the untreated wait-list. That the treated group means are larger and in the opposite direction to the untreated group means confirms the finding of a significant booster treatment effect.

6. Couples who received booster sessions after the termination of the EFT+CT treatment maintained their EFT+CT gains on all the dependent measures over the long term. That is there were no significant differences between the FB group scores as assessed at EFT+CT post-test in the James (1988) study and booster post-test in this study.

The results of the structured interview provide qualitative support for the efficacy of the booster sessions.
in enhancing couples relationships and maintaining their gains. Most of the couples reported that the sessions improved their skills and increased their confidence in and commitment to use the skills in their daily life. A number of couples assessed the fading procedure as helpful in allowing more at-home practice and gradually increasing their independence from therapy. By the end of the fourth booster, a majority of couples felt they had better incorporated the communication skills into their daily lives than they had at the end of the initial CT treatment component. This finding is particularly encouraging because the main reason that couples gave for discontinuing use of their newly acquired communication skills after the initial CT sessions, was that the skills seemed awkward and unnatural to use. Finally, all but one couple said the CT boosters had considerably improved their relationships. The sentiments these couples held in common were that the sessions had: increased their awareness of self and other, helped them relate better, and made them more hopeful about the future of their relationships.

LIMITATIONS

The most obvious limitation of this study is the small number of subjects; 10 couples with five per group. While a larger number of couples in each group would have generated a more accurate estimate of the population value and therefore
had more external validity, this sample does represent an adequate rate of response from James' (1988) EFT+CT group as 10, or the original 14 couples agreed to participate. The small N in this study may also mitigate against finding a significant difference between the two experimental groups on some of the dependent measures. A related concern was how the sample was selected. Because this was a sample of convenience, not randomly selected from a target population of distressed couples, external validity is reduced and it is difficult to generalize the findings to distressed couples in the general population.

The problem of attrition has hindered researchers efforts to conduct follow-up studies. Of the 14 EFT+CT couples, 10, or 71%, agreed to participate in the current study. These subject attrition rates are less than reported in most booster studies, especially considering that couples maintained involvement for approximately 18 months after commencement of the initial EFT+CT treatment.

Attrition presented some concern in this study as one couple in the DB group dropped out just prior to receiving treatment. This couple consented to the researcher using the data they had already provided, however, and the missing data point was estimated by averaging their other scores. Attrition of the therapist population was a greater concern than subject attrition in this study. Two of the four therapists were unable to continue after the FB group had been
treated, requiring the remaining two therapists to administer the booster sessions for the DT group. It is unlikely that this fact confounded the results of the study because all of the therapists were equivalent in the amount of training, supervision and experience they had with the CT and CT booster-treatment models. In addition, the implementation check confirmed that the therapists had closely followed the procedures as outlined in the CT booster manual.

It should also be noted that random assignment of the therapists to couples in each treatment condition mitigated against differential therapist effects.

It would have also been preferable if the researcher had not been one of the therapists, however there were only a limited number of therapist with the CT training who were willing to volunteer for this study. Future researchers are advised to have a sufficient pool of trained therapists to offset any attrition during the experimental period.

In future studies it would advisable to conduct a formal implementation check using independent raters to reliably ensure that all couples received treatment consistent with treatment protocol and eliminate possible experimenter bias. In this study efforts were made to ensure reliability, by training therapists, providing a written manual of the treatment procedures, providing supervision, and obtaining taped recordings of actual sessions for informal evaluation.
The fact that the researcher, who was also a therapist, may also be considered a limitation of this study. Efforts were made to ensure confidentiality and impart objectivity in the administration of the dependent measures therefore making it unlikely that subjects responses were affected. The measures were self-report questionnaires that were filled out in private from researcher and spouse, number coded, and returned sealed in envelopes. Follow-up measures were sent to clients four months after the initial booster treatment with instructions to fill them out as before and return in the envelopes provided.

Since client perception of the therapeutic relationship is seen as an important factor in treatment outcome, it would have been worthwhile to evaluate whether couples in both groups perceived equally positive alliances with their therapists. The results of the structured interview indicated that all couples perceived their therapists as invested in their well-being, skilled and effective. Without exception, couples judged the therapy to have improved their relationships.

A final limitation of this study is that it employed a non-probability sample of available subjects which affects external validity. Because no statement of confidence can be attached to estimates from such samples, caution must be used in generalizing from the findings. In this study, the findings are likely generalizeable to mildly to moderately distressed
volunteer couples from the Greater Vancouver area who share
the characteristics of the couples in James' (1988) study. Non-probability samples are often used in clinical nursing research and are deemed appropriate for exploratory studies, such as this one.

IMPLICATIONS

This study is the first investigation of the use of booster sessions as a strategy for maintaining change' brought about in a non-behavioral marital therapy. The results supported the efficacy of booster sessions in increasing and maintaining marital treatment gains one year after termination of the initial treatment. More fundamentally, this study adds to the small number of existing studies that provide evidence that maintenance is a problem in marital therapy.

One implication of the results of this study is that booster sessions may be an effective way for clinicians to enhance the maintenance of treatment gains after marital therapy. Calls for accountability from the public sector together with increasing pressure from government funding sources for and cost-effective mental health services have made it incumbent upon researchers and clinicians to develop therapy practices that produce durable gains.

Booster maintenance sessions, whether delivered to individual couples or in a group, are cost-effective for both
client and therapist, requiring only a brief intervention to return couples to post-treatment levels of functioning. Booster sessions can protect the financial, emotional and time investments made by couples attending therapy and provide clinicians and researchers with efficient ways to back-up and evaluate the services they provide.

A second implication of this research is that it may promote change in the traditional model marital therapy, where an intensive treatment period is followed by termination.

Jacobson et. al. (1986) have proposed a new model of therapy which features a booster maintenance phase as an important component. In this model, "the marital therapist operates more like an accountant or a dentist, than a physician, to form relationships with their clients, solve their most pressing problems, and then meet with them periodically to provide...further consultation" (p.67). The principle author asserts that this model is more consistent with evidence that, more than any factor related to therapy, negative life events and stresses occurring subsequent to therapy ultimately determine whether couples maintain their treatment gains (Jacobson et. al., 1987). Assuming this explanation of the maintenance problem is valid, it seems unrealistic to expect brief marital therapy interventions to have permanent effects on marital relationships as intervening life stresses become salient. Frank (1968) suggests that the concern about the long-term effects of psychotherapy derives
from the traditional criterion in medicine and surgery of the 5-year cure. It remains to be seen whether future research will endorse booster maintenance sessions as an integral part of marital treatment regimens.

One argument that has been advanced against boosters is that they serve only to delay regression, not prevent it. Even if improvement proves temporary, a respite from marital distress can reinforce a couple's belief in therapy and engender motivation and commitment to continue to work on their relationship. Hence, even just delaying relapse can be an important step in generating durable change.

A final implication of this study is that it may stimulate future research in a largely uncharted area of marital therapy; namely the maintenance of treatment gains.

**FUTURE RESEARCH**

Since this study is the first to investigate and support the use of booster maintenance with a non-behavioral therapy, one of the main recommendations for future research is that a study be conducted to replicate the current findings. In conducting such a study, it is suggested that both short and long term follow-up measures be taken. Lebow (1981) asserts that treatment effects may be masked or misinterpreted if either proximal or distal follow-up data are omitted. No systematic long-term follow-up studies have been conducted on
the effects of booster sessions in non-behavioral marital therapy.

One of the major methodological problems in previous studies of booster sessions is the small number of subjects in each treatment condition, which often results in insufficient power to detect between-group differences (Whisman, 1990). The current study is no exception, although treatment effects were detected despite the small number of couples in each group. A second recommendation for future research is that prospective studies involve sufficiently large numbers of subjects to ensure adequate power. An appropriate strategy for this purpose would be to perform power analyses of the number of subjects necessary to identify between-group differences (Cohen, 1969).

Another methodological flaw in existing studies of booster sessions is the failure to specify a rationale for how the boosters were scheduled. Whisman (1990) contends that to enhance the efficacy of maintenance sessions, scheduling should be based on empirical grounds. In particular, this author suggests that the relapse rates for a given therapy first be determined and then maintenance sessions be scheduled during the identified high-risk period rather than at some arbitrary point in time. For relapse rates to be determined in a meaningful way, there must be some standardized method for quantifying rates of change in marital therapy. One method that shows promise employs a reliable change index based on
the standard error of measurement (Jacobson et al., 1984) to assess clinically significant change. Current rates of per-couple improvement and relapse could be established quite efficiently by applying these criteria to existing outcome and follow-up data.

A further suggestion as to the scheduling of booster sessions is that client-initiated sessions be offered in addition to those scheduled by the therapist, thus extending the maintenance phase of treatment. Whisman (1990) suggests that "the typical approach of scheduling three or four post-treatment sessions may not be sufficient to sustain behaviour changes whereas extending the contact with the therapist may serve to maintain treatment gains for a longer period of time" (p. 166). In the structured interview, spouses responded almost unanimously in favour of the fading procedure indicating that this strategy would be worth replicating.

Another suggestion for future studies is that the booster strategy be reserved for couples who experience initial success in treatment. Not to do so may create the unrealistic expectation that a brief booster intervention could achieve gains that more intensive therapy could not; leaving couples feeling even more disillusioned with therapy and their relationships. It makes sense to attempt to maintain gains only where gains have been achieved.

The following recommendation relates specifically to the content of the CT boosters sessions. The effectiveness of the
CT boosters may be improved by including more maintenance enhancing component to the CT package. In addition to the three skills included in the CT booster component, Guerney has developed several other skills that could be incorporated into the CT booster package. These include skills in: (a) conflict/problem resolution, (b) generalization/maintenance, (c) facilitation of change.

There is a need for future research that examines the mechanisms through which booster sessions maintain change. Clinical practice may benefit from the results of process-oriented studies that begin to specify how change is induced and maintained. Whisman (1990) claims that there is no reason to infer that the processes that produce change resemble the processes by which change is maintained.

One factor, that has been associated with the maintenance process is the client's expectations of self-efficacy. An individual's sense of control or mastery seems to influence the persistence of therapeutic effects. In future studies of booster sessions it would be important to provide rationale and implementation procedures that enhance clients' perceptions of self-efficacy. In this study, prospective couples were told that CT boosters would help them develop their confidence in using the skills to enhance their relationships to resolve their own current and future problems.
Finally, future research in couple's therapy might address the problem of intra-couple differences. Inspection of individual's scores in this study revealed that some spouses had quite different perceptions of their relationships. Also, of interest to future research would be a study that explored male/female differences in response to treatments emphasizing communication and generating intimacy.

The intent of this study—to stimulate empirical interest in the maintenance problem—is aptly expressed in the sentiments of the leading contemporary reviewer of booster maintenance sessions:

It is hoped that by improving the content of booster sessions and the research methodology used to evaluate them, as well as identifying factors associated with the change process, the impact of booster maintenance sessions in maintaining treatment-induced change will be enhanced (Whisman, 1990, p.168).

The aim of these efforts, is to effect positive change in couples' relationships and ultimately, their lives.
no text
REFERENCES


APPENDIX A

Demographic Data for the Ten Couples in the Booster Study.

1. Mean number of years living together - 13.0.
2. Mean number of children in the family - 2.3.
3. Percentage of couples who had received previous marital counselling of brief duration - 50% (mean duration 2.4 months).
4. Percentage of individuals who were previously married - 20%.
5. Mean age of partners - 40 years.
6. Median annual family income was between 45,000 and 50,000 dollars.
7. Mean number of years of education for individual was 13.2.
APPENDIX B

INTERVIEW SCHEDULE

1. What was it like to participate in these four C.T. sessions several months after your last C.T. Skills training sessions ended?

2. Prior to receiving these four sessions, had you been using the expression and listening skills that you were introduced to in your first four C.T. sessions? What reason do you give for this?

3. What did you find most helpful about the C.T. sessions this time around? Consider things like the session format, timing, contents or the skills themselves.

4. What effect do you think these four C.T. sessions has had on your relationship with your partner?

--- Improved --- No effect --- Deteriorated --- Not sure
--- --- --- ---
Why do you think this is so?

5. How often were you able to complete the homework practice sessions?
---Never ---Rarely ---Sometimes ---Most Times ---Always

6. How helpful were the homework practice sessions in helping you learn the skills?
---Very ---Somewhat ---Not At All ---Not Sure
Why do you think this is so?