

## Behavioral Marital Therapy: An Evaluation of Treatment Effects Across High and Low Risk Settings

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### Abstract

The present study examined the generalization of treatment effects of a cognitivebehavioral treatment program for marital distress. Following a baseline phase, each of four couples received two phases of marital therapy within a multiple baseline across subjects design. The first phase of treatment was behavioral marital therapy (BMT) focusing on communication and problem solving skills. The second phase was cognitivebehavioral marital therapy (CBMT) which focused on conflict management skills in high risk interactive settings at home. Couples' communication was assessed in a training setting in the clinic and each of two generalization probe settings at home (a low risk and a high risk) setting. The BMT phase produced a clear reduction in communication negativity in the training setting which generalized to both the low and the high risk setting. The CMBT phase produced little additional changes in communication, however, it was associated with changes on a measure of positive and negative partnerreferent thoughts.

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Behavioral marital therapy (BMT), incorporating behavior exchange and communication skills training, produces statistically significant improvements in patterns of communication, problem solving, and marital satisfaction for the majority of maritally distressed couples (Hahlweg & Markman, 1988; Jacobson, Follette, Revenstorf, Baucom, Hahlweg, & Margolin, 1984). However, up to 30% of couples do not benefit at all from BMT, and up to 2A of couples who report increased marital satisfaction are still maritally distressed after treatment (Jacobson et al., 1984). Efforts to further improve the effectiveness of BMT have focused on the incorporation of cognitive and affective interventions to more traditional BMT (e.g., Baucom & Lester, 1986). Although such interventions produce increases in marital satisfaction in their own right (Emmelkamp, van Der helm, MacGillvray, & Van Zanten, 1984; Epstein, 1982; Huber & Milstein, 1985), the addition of available cognitive and affective interventions do not improve the efficacy of BMT (Baucom, 1985; Baucom & Lester, 1986).

Implicit in BMT applications is the assumption that couples generalize the behavioral, cognitive, and affective responses acquired in therapy to the naturalistic settings in which marital interaction usually occurs. It has been suggested that the focus on process skills in BMT, such as communication and problem solving, should produce generalized and sustained changes in marital interaction (e.g. Jacobson & Holzworth-Munroe, 1986). Attempts to modify cognition and affect in BMT have been justified, in part, by a belief that changes in cognition and affect may further enhance generalization of adaptive marital communication. For example, Schindler and Vollmer (1984) describe the use of self-instructional training to manage anger as a means of assisting couples to apply communication skills learned in BMT in certain settings. However, there is very little research on the extent of generalization of BMT effects.

Of the 16 classes of generalization identified by Drabman, Hammer, and Rosenbaum (1979), the only major category to receive any attention in the BMT literature has been the durability of treatment effects (e.g., Jacobson, et al. 1985). A substantial proportion of couples who initially respond favorably to therapy relapse during the two year follow-up period (Jacobson, 1989). Attempts to assess generalization of treatment effects to settings outside the therapeutic situation are almost nonexistent. Consequently, two remaining untested hypotheses are that: (1) communication and problem solving skills acquired during BMT are generalized to naturalistic settings, or (2) that cognitive and affective strategies improve generalization.

A central issue in exploring the generalization of marital behaviour change concerns the effects of situational variables on couples interaction. An assumption has existed that various interactional contexts constitute a relatively homogeneous class of environments, with the overriding critical stimulus impacting upon marital interaction being the presence of the spouse. Consequently, little attempt has been made to assess potential differences in marital interaction associated with differing interactional contexts. However, certain combinations of setting parameters

(e.g., location, concurrent activities, discussion topic) constitute high-risk occasions for the occurrence of aversive marital exchange (Halford, Gravestock, Lowe, & Scheldt, 1990). Variability in BMT outcome may reflect the failure of treatment effects to generalize to such high risk settings. Programming for generalization in other research areas, by directly training skills for coping with high-risk settings, promotes generalization and maintenance of therapeutic gains (e.g. Marlatt & Gordon, 1985; Sanders & Glynn, 1981; Sanders & James, 1983).

The central notion behind the present investigation is that variable BMT outcome may reflect failures in the generalization and maintenance of therapeutic effects. This study evaluated the generalization effects of a standard BMT program to different several home settings, and examined the conceptual and clinical notion of "high-risk" settings by evaluating the differential impact of such settings on the generalizability of BMT. The study also evaluated the utility of adding

## METHOD

### Subjects

Four self-referred maritally-distressed couples participated in the study. None of the partners reported any history of previous psychological treatment. All partners completed the Dyadic Adjustment Scale (DAS - Spanier, 1976), and all but one husband had scores of less than 100, which is a commonly used cutoff to classify marital distress. DAS scores ranged from 75 to 104 for husbands, and from 65 to 87 for wives, reflecting a range from mild to severe marital distress. Couples had been married an average of 11.9 years (range of 4.5 to 17), and all had at least one child (mean = 1.3). The average age of husbands was 37 years and for wives was 36 years. Husbands and wives both averaged 13.3 years of formal education.

#### *Settings*

Marital interaction was assessed each week in the clinical training setting and two home generalization settings. At the end of each session in the clinic couples discussed a preselected topic, which they had nominated as an "intermediate" or "hot" problem on the Issues Checklist (described below). The two home settings comprised a low and a high risk generalization setting. A setting was defined as low-risk if the topic selected for discussion was rated by the couple as a moderate problem on the Issues Checklist, and the discussion was held in a relaxed and quiet setting which was free from distractions and competing demands. A setting was defined as high-risk if the topic being discussed was rated by the couple as a "hot" problem, and the discussion was held in a home setting judged by the couple to contain distractions and competing demands.

The interaction in the clinic setting was videotaped. In both home settings couples audiotaped their discussions. The two home discussions were held on separate days, with their order counterbalanced on a weekly basis. Both home generalization settings differed from the clinic training setting along several dimensions (i.e., different place and time and couple *versus* therapist controlled venue).

#### *Issues Checklist*

An Issues Checklist was employed to identify topics for problem-solving discussions. The checklist is a 112-item list of problem topics which forms 12 thematic clusters including finances, household management, childcare and parenting, couple communication and relationship activities. For each item, spouses rated the following on 6 point Likert scales: (1) How important an issue is this between you and your spouse?; (2) How hot or heated do the discussions on this topic typically get? Items were then classified in terms of emotional salience as mild (1-2), moderate (3-4), or hot (5-6). A topic was selected and rated as moderate or hot based on either partners rating of the topic in these ranges. The available moderate and hot topics were randomly assigned to relevant settings on a weekly basis.

#### *Observational Measures*

Two observers received approximately 30 hours of training in the use of the Kategoriensystem fur Partnerschaftliche Interaktion coding system (KPI). In the KPI each verbal response by each partner is classified into one of 12 verbal content codes and is also assigned to one of three nonverbal categories (Hahlweg et al., 1984). The KPI reliably

discriminates between distressed and non-distressed couples, particularly on the frequency of use of negative responses (Hahlweg et al., 1984; Halford, Hahlweg, & Dunne, 1990).

Coding using the KPI is time consuming, with a 10-minute tape of interaction taking 2 to 3 hours of coding time. As we needed to concurrently monitor communication across multiple settings for four couples on a weekly basis, we simplified the coding procedure. There are five categories of negative verbal behavior in the KPI. Interaction was sampled in observation blocks of 20 seconds, repeated 30 times for each observation setting. Observers employed a partial interval time-sampling procedure to record the occurrence or nonoccurrence of *any* category of negative verbal communication in each interval. The measures derived were the percentage of intervals in which (1) husbands, and (2) wives, used negative communication.

One observer scored all tapes, while a second coded a randomly selected sample of one-third of all tapes to assess interobserver reliability. Coders were not informed as to treatment phase, the nature of different settings utilized, or experimental hypotheses. Coders were able to code 10 minutes of interaction with this simplified system in approximately 15 to 20 minutes. The simplified coding lacks the descriptive richness of the KPI coding, but provides an appropriate index of the negativity of communication. Interobserver agreement checks were completed in the training and generalization settings for all couples in each phase. Mean percentage agreement between raters on the occurrence of negative verbal behaviors was 84% for the clinic videotapes, and 86% for the home audiotapes in both the high and low risk settings. These percentage agreements correspond to Kappas of .58 and .64, respectively.

#### *Marital Interaction Diary*

A Marital Interaction Diary (MID) was used to assess stressful spouse interchange outside the therapy setting. The diary was adapted from Halford et al. (1990) to identify the frequency and intensity of aversive marital exchange. Spouses kept a daily event record of all stressful or angry interactions experienced with their spouses. A stressful interaction was defined as any aversive or negative exchange (e.g., overt fighting, nasty words, exchanges they found stressful). Spouses also rated how stressful they found each aversive exchange, on a 7-point Likert scale.

#### *Cognitive Measure*

Each couple's cognitive construction of their interaction with their spouse during problem solving discussions was assessed by a thought listing procedure (Halford & Sanders, 1988) at the end of each experimental phase. Following training setting discussions, couples completed a thought-listing sheet which contained 30 blank boxes. They were asked to list any thoughts they had experienced during the immediately preceding discussion. Each thought was recorded in a separate box. Thoughts were subsequently content analyzed and classified in one of the following categories by trained observers: Self, partner or other referent, and then into either positive or negative in the same manner to that described by Halford and Sanders (1988). Halford and Sanders (1988) found that the procedure can reliably discriminate distressed from nondistressed couples, and has good interrater reliability. The measures derived from the thought listing procedure were the percentages of all reported thoughts that were: (1) negative partner-referent and (2) positive partner-referent. Partnerreferent cognitions were focused on, as these have been shown to be associated with negativity of marital communication (Halford & Sanders, In Press).

#### *Global marital adjustment*

The Dyadic Adjustment Scale (Spanier, 1976) is a widely used 32 item selfreport measure of marital satisfaction. This was administered to each partner before and after treatment and at follow-up.

#### **Treatment**

The first phase of treatment consisted of BMT which focused on behavior exchange and communication/problem-solving training, as has been described by Jacobson and Margolin (1979). The second phase of treatment was Cognitive-Behavioral Marital Therapy (CBMT) which consisted of cognitive and affective change strategies designed to enhance the generalization of treatment effects. CBMT consisted of training in the identification and management of high risk conflict situations. Procedures used included: tracking of stressful interaction, and

identification of high risk settings in which such interactions occurred; stress inoculation training for dealing with behavioral, cognitive, and affective responses associated with conflict and partner negativity; exploration of dysfunctional relationship beliefs, and their role in the maintenance of marital distress for given couples; therapeutic exposure to high conflict interactions to foster habituation of problematic responses to aversive provocation; and identification and planning for future stressors and high-risk situations. (A detailed therapy manual is available from the authors).

### *Experimental Design*

An intra-subject replication design, with a multiple baseline across subjects, was used to assess the effects of treatment. Baseline consisted of two assessment occasions for the first couple. While a minimum of three assessments is recommended to allow clarification of mean, variability, and trend in intrasubject designs (Barlow, Hayes, & Nelson, 1984), keeping couples who are severely maritally distressed in prolonged baselines is difficult. Baseline for couple 2 continued until a treatment effect from BMT was evident for the first couple in the clinic setting. Couples 3 and 4 commenced BMT once a treatment effect was evident for couple 2. CBMT was introduced once stability in the BMT response was evident in the clinic setting. Treatment was terminated at the point when couples showed stability in communication behavior in the clinic, and reported feeling satisfied with the achievements of therapy.

Three months following termination of treatment, a further two weeks observation and spouse-monitoring was conducted in both the training and home generalization settings. Self-report measures also were obtained at this time.

## RESULTS

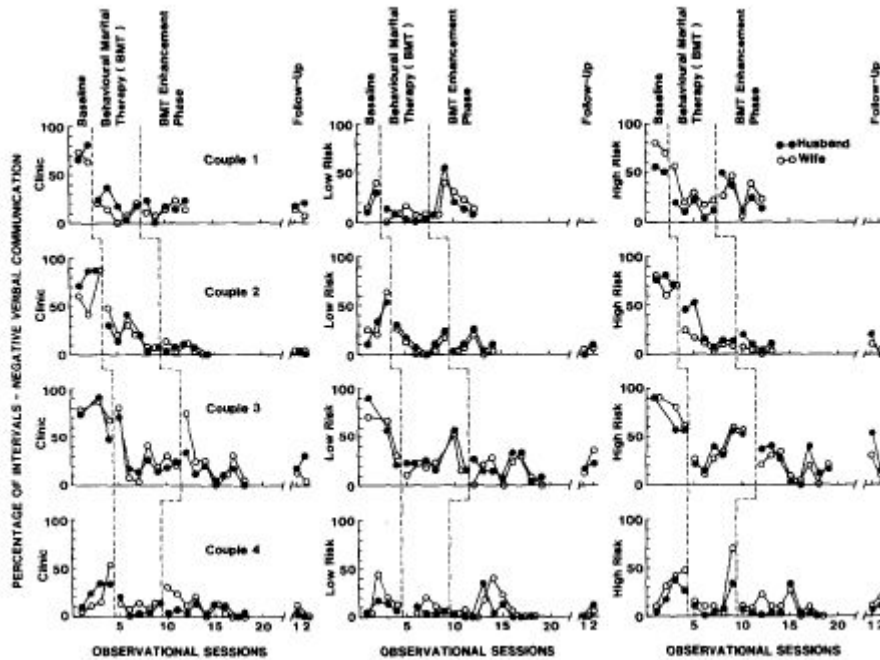
### *Negative Verbal Communication*

Figure 1 presents the percentage of intervals containing negative verbal communication in training, low-risk, and high-risk settings, in each experimental phase. Baselines in the clinic setting for couples 2 through 4 showed high variability, with evidence of a downward trend for couple 3, and an upward trend for couple 4. These two couples were reporting great distress, and it was decided that therapy must be commenced for them despite the instability. Baselines in the low risk home setting evidenced lower rates of negativity than in the clinic setting for most couples, and there was again evidence of high variability across assessment occasions. Relative to the low risk setting, in the high risk home setting baseline data were more stable, and rates of negativity were higher for couples 1, 2, and 3.

The onset of BMT was associated with a marked decrease in the frequency of negative verbal behavior in the clinic setting for couples 1 through 3. In couple 4 the low baseline rate makes it difficult to determine if there was a treatment effect, though it seems that the upward trend in that couple's data during baseline was reversed. Across all couples, during the BMT phase a mean of 27.8% of intervals included negative behavior, which is a 63% decrease from baseline levels. The CBMT phase was associated with the maintenance of gains established during BMT, a marginal additive effect on negativity was evident for couples 2 and 3 but not for the other couples.

During the BMT phase couple 1 decided to separate, and thereafter therapy focused on assisting them to communicate more constructively about issues to do with separation (e.g., child custody and access, and property settlement). They subsequently did separate, and did not provide follow-up data in the home settings. At 3 month follow-up, maintenance of training-setting effects established during treatment were apparent for all couples in the clinic setting.

Figure 1 reveals that couples 1 and 3 demonstrated strong generalization effects to the low and high risk home settings during BMT, with these couples showing 60-65% reductions in the levels of negative behavior observed in baseline. For Couples 3 and 4, a generalization effect for BMT in the low risk setting cannot be claimed due to the descending baselines prior to onset of treatment, but there was clearer evidence of an effect in the high risk setting



Fro. 1. The mean percentage of intervals of negative, verbal communication across experimental phases.

for each of these couples. The CBMT phase was associated with the maintenance of gains established in the BMT phase, though there were some trends towards deterioration after the introduction of CBMT for Couples 1 and 4. There were no additive effects of CBMT in the high risk settings, with the possible exception of couples 3 and 4 who evidenced deterioration in the high risk setting toward the end of the BMT phase. Observations at 3 month follow-up showed maintenance of gains for couples 2 and 4. Couple 3 showed some deterioration from post treatment, but negativity was still markedly lower than baseline levels in each assessment setting.

*Other Measures*

Table 1 presents the mean reported frequency, and rated intensity of negative exchanges per week, in each experimental phase. During BMT there was a marked reduction in the frequency of negative exchanges relative to baseline levels across the couples, with a further decline in the CBMT phase. This reduction was maintained at the follow-up. There was no evidence of change in the reported intensity of the interactions that did occur.

**TABLE 1**  
**NUMBER OF NEGATIVE EXCHANGES PER WEEK, AND AVERAGE INTENSITY**  
**EXPERIENCED FOR COUPLES IN EACH EXPERIMENTAL PHASE**

Couple	Baseline		BMT		C-BMT		FU	
	No. of Fights	Ave. Int.	No. of Fights	Ave. Int.	No. of Fights	Ave. Int.	No. of Fights	Int.
Couple 1	11.5	3.2	6	3.1	2.6	3.5	-	-
Couple 2	4.3	2.4	2.2	3.1	1.6	3.3	1.5	3.3
Couple 3	19.7	4.3	8.4	3.7	1.3	2.3	.5	3
Couple 4	4	4.0	3.2	4.3	2.3	3.2	0	0
Mean	9.9	3.5	5	3.5	2	3.1	.7	3.2

Figure 2 presents percentages of negative and positive partner-referent thoughts for couples assessed at the end of each experimental phase. High basal levels of partner-referent negative thoughts, in conjunction with virtually no partner-referent positive thoughts, were evident for all couples. BMT was associated with a 14% reduction in partner-referent negative thoughts, but had minimal impact on the frequency of partner-referent positive thoughts. CBMT was associated with a further 18% reduction in the frequency of partner-referent negative thoughts, and during this phase there was a 28% increase from BMT levels in partner-referent positive cognitions. Reductions in partner-referent negative thoughts were generally maintained at 3 month follow-up, though some deterioration was apparent in Couple 3. Decreases in the frequency of partner-referent positive thoughts was evident for all couples at follow-up relative to the end of CBMT, though follow-up still exceeded levels in the baseline and BMT phases.

Table 2 presents scores for couples on the DAS at pretest, posttest, and followup. Marked improvements in spouses' reports of marital satisfaction were evident at posttest. Using the Reliable Change Index (Christensen & Mendoza, 1986), all eight spouses showed clinically significant improvement on the DAS. All but two spouses (Couple 1) scored in the non-distressed range of marital functioning at posttest, and these changes were maintained at follow-up. The couple (Couple 1) remaining distressed at posttest had separated at follow-up.

### DISCUSSION

The present study extends the existing literature on BMT by assessing the generalization of BMT to naturalistic settings outside of therapy, and examining the utility of adding a CBMT component in enhancing generalization effects of BMT. BMT was associated with strong treatment effects on communication measures for most couples in the training setting, replicating findings that BMT results in significant changes on clinic-based measures of these skills (Baucom & Hoffman, 1986). Generalization of the use of these skills to the home settings during BMT was generally greater than anticipated, with most couples showing generalization effects during this phase. The CBMT enhancement phase was associated with the increase of established treatment effects

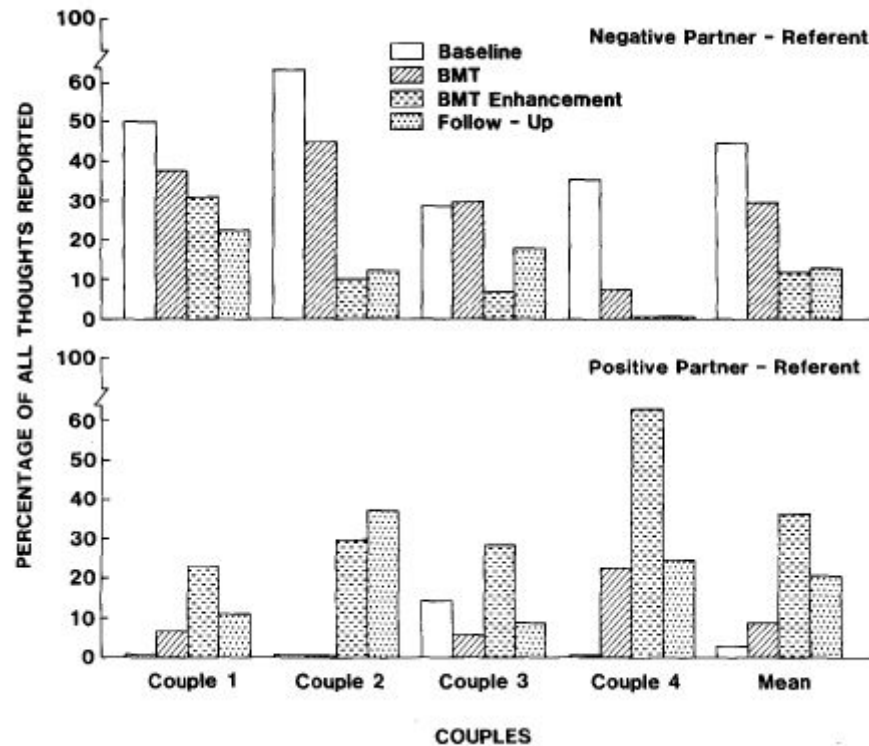


FIG. 2. Percentage of negative and positive partner referent thoughts for each couple in each experimental phase.

(i.e., decreases in verbal negativity) for most couples, but CBMT had little additive effect on generalization except for one couple. Overall treatment resulted in 3 of 4 treated couples rating themselves as maritally non-distressed.

BMT had minimal impact on altering the ongoing cognitions of spouses, while CBMT was associated with increases in spouses' positive thoughts about their partner. These results replicate Baucom and Lester (1986) findings that cognitive strategies employed along with BMT lead to cognitive changes. However, unlike Baucom and Lester (1986), cognitive changes obtained in the current study related to changes in interaction-specific cognitions and not changes in general relationship beliefs and attitudes.

Partner reports of the frequency of stressful marital interactions decreased over treatment, but the intensity of those stressful interactions that did occur was unchanged. While there was no direct behavioral data on these interactions, it is possible that acquired communication skills did not generalize to these interactions to the same extent as situations in which an agreed on topic was discussed at a predetermined time. Planned problem-solving sessions have often been recommended in the BMT literature (e.g., Stuart, 1980), and the current data show that reductions in

TABLE 2  
PRETEST, POST-TEST, AND FOLLOW-UP SCORES ON THE DAS

	Pre	Post	FU
Couple 1			
Husband	75.0	87.0	72.0
Wife	73.0	82.0	63.0
Mean	74.0	84.5	67.5
Couple 2			
Husband	104.0	142.0	141.0
Wife	65.0	121.0	113.0
Mean	85.0	131.5	127.0
Couple 3			
Husband	88.0	114.0	109.0
Wife	83.0	124.0	103.0
Mean	85.5	119.0	106.0
Couple 4			
Husband	79.0	109.0	112.0
Wife	87.0	128.0	119.0
Mean	83.0	118.5	115.5
Mean			
Husband	86.5	113.0	108.5
Wife	77.0	113.8	99.5
Mean	81.9	113.4	104.0

negativity during signalled interactions do generalize from the clinic to settings for these discussions. However, future research needs to investigate the effects of treatment on couple's incidental but aversive interactions in settings that are not conducive to the application of skills taught during problem solving. The current study comprises the first intensive analysis of generalization of BMT. The study included 4 couples and given the variability in couples' responses to treatment, further research is needed to assess the extent and determinants of the generalization of treatment effects of BMT and CBMT.

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