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Contingency contracting for the treatment of marital discord : a thesis ...

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CONTINGENCY CONTRACTING FOR THE TREATMENT OF MARITAL DISCORD

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ABSTRACT

The effectiveness of contingency contracting for treating marital distress was tested using a within couple multiple baseline design across responses. Two distressed couples participated. Both couples experienced marginal improvements as measured by a spouse-tracking procedure. One couple demonstrated gains in self-reported satisfaction. The findings for a third dependent variable are inconclusive for both couples. Suggestions for further research are discussed.

The application of behavioral techniques to the treatment of distressed marriages was largely ignored by many behavior therapists until the late 1960's. Since then, there has been a proliferation of studies. These contributions have focused on specific intervention strategies designed to restructure the behavior change patterns used by distressed couples (Azrin, Naster, & Jones, 1973; Patterson, Weiss, & Hops, 1975; Rappaport & Harrell, 1972; Stuart, 1969; Weiss, Patterson & Hops, 1973).

Communication Training

The goal of therapy for most behavioral researchers is to interrupt the predominant use of aversive control in the relationship by reducing the high rate of punishment and increasing the low rate of positive reinforcement (Jacobson & Martin, 1976). Several investigators feel the most expedient way to achieve this end is to examine the communication patterns of the relationship. Thomas, Carter, and Gambrill (1971), for instance, emphasize the importance of providing couples with effective communication skills and the ability to solve mutual problems. This can be accomplished, according to these authors, by "... objectifying interpersonal behaviors under controlled conditions ..." Research at the University of Oregon (Weiss et al., 1973; Patterson & Hops, 1972) also

stresses the importance of communication training as an initial focus in a treatment package designed to help distressed couples (to be discussed later). As a component of a broad treatment program, communication training is included to achieve two goals. First, couples develop better skills for solving common marital problems. Second, as communication improves, there is an increase in the rate of positive reinforcement between spouses.

Communication training at Oregon begins with teaching couples to describe their problem behaviors operationally. It is believed that this skill helps to eliminate a great deal of confusion between spouses. Furthermore, as Weiss et al. (1973) suggested, "pin-pointing makes the utility of the problem behavior clearer" (e.g., "You want me to work 7 days per week!?").

The next step in training improved communication skills involves having spouses listen to each other more. Hops (1976) feels that some spouses are so intent on communicating their own point of view that they lose track of what the other person has to say. To make listening more effective, spouses are asked to para-phrase the last statement of their partner's simply to insure that they heard the other's words.

The third segment of training involves having

couples share more equally in conversation. When one member dominates the conversation, the other spouse is not allowed an opportunity to discuss his/her ideas or opinions. Training usually involves having the non-dominant partner converse for a specific time period without interruptions from his/her partner.

The last step is to reduce the aversive and side-tracking behaviors of the couple. The emphasis is to teach couples to communicate using more positive verbal and nonverbal behaviors rather than behaviors such as sarcasm and ridicule. Training also includes pointing out to the couple how self-defeating sidetracking (changing the subject frequently) can be since it prevents any one problem from being resolved. Feedback, instruction, modeling, and behavioral rehearsal are some of the techniques used to assist couples.

To date, communication training has been shown to be an effective procedure for treating distressed couples (Carter & Thomas, 1973; Eisler, Miller, Hersen, & Alford, 1974). However, supporting research has not been experimentally demonstrated (Jacobson & Martin, 1976). For instance, Eisler et al (1973) were able to train husbands to behave more assertively when communicating to their wives. There were substantial changes from pre- to post-treatment. These results, however, must be interpreted cautiously since the study lacked a control group. Other researchers

(e.g., Carter & Thomas, 1973; Wells & Figural, 1975) have also successfully used communication training to improve the relationship. But for the most part, methodologically sound research is sparse (Jacobson & Martin, 1976).

Contingency Contracting

An alternative approach for treating the distressed couple is training in contingency management. The strategy most often used with married couples has been contracting. Contracting refers to a written agreement between spouses; it is a "systematic procedure for setting forth behavior change agreements" (Weiss, Birchler, & Vincent, 1974). The purpose of this approach is to interrupt or reverse the use of aversive control in the relationship (Jacobson & Martin, 1976).

One of the first systematic attempts to treat the distressed marriage using contracting was carried out by Stuart (1969). First, couples were trained in logic of a behavioral approach. They were taught to view the relationship as a process whereby one spouse's behavior is integrally related to the other spouse's behavior: when changes in one spouse occur, corresponding changes can be observed in the other's behavior. Second, each person was asked to list three of his/her spouse's behaviors that

needed accelerating or decelerating. Third, each spouse was asked to monitor the frequency of occurrence of the transcribed behaviors as a baseline to evaluate change and to give the couples practice in attending to their spouse's behavior. The last step consisted of negotiating a series of exchanges of desired behaviors.

Of the four couples Stuart (1969) treated, the major complaint of the husbands was the infrequency of sexual intercourse. Conversely, the wives identified as their first choice that they wished their husbands would converse with them more frequently. Agreements among couples were negotiated such that sexual privileges for the husbands were contingent upon conversation with their wives.

The results indicated substantial improvements for all couples. The rates of reported satisfaction and the reported behavioral changes increased well above former baseline rates. Unfortunately, there were major methodological weaknesses, in particular, the absence of control or comparison treatment phases. The case study (baseline and treatment conditions only) limits the investigator's ability to rule out the influences of time, history, and subject selection of target behaviors (Herson & Barlow, 1975). In addition, Stuart's (1969) study relied upon

self-reported follow-up data.

A second contingency contracting treatment intervention developed to help the distressed couple is that of Azrin, Naster, and Jones (1973). It is based entirely on the assumption that in nondistressed relationships, partners exchange reinforcers reciprocally. For instance, if the husband emits a positive behavior toward his wife, the wife will reciprocate and emit a positive behavior toward her husband. According to Azrin, this reciprocal exchange occurs very infrequently or not at all in distressed marriages. The primary goal of therapy is to teach couples to respond reciprocally to reinforcing behavior. "Obviously by pleasing Wife, Husband stands to be reinforced by Wife, thereby producing a greater relationship benefit" (Weiss & Margolin, 1975).

Twelve couples were treated using this approach. Each couple received one-hour counseling sessions twice a week, and for the first three weeks couples were encouraged just to talk about their problems. This procedure was called "Catharsis Counseling" and was designed to act as a control phase prior to the introduction of treatment. During treatment, couples received training in learning to respond reciprocally to the positive and satisfying behaviors of their spouse. For example, the "Appreciation Reminder Procedure" was designed to remind

spouses to be aware and appreciate any new satisfactions in their partners. In addition, spouses learned to identify target behaviors they would like to see improved in their partners and minimal training in contingency contracting was provided. The approach is similar to Stuart's (1969) intervention strategy except technical language, extensive self-recording, and communication skills training are all absent (Weiss & Margolin, 1975).

Self-assessment of the improvement in the relationship of the 12 couples was obtained and marked improvements were reported. Because self-report was the only outcome measure, conclusions regarding the efficacy of this treatment strategy should be made cautiously.

The more recent work of Weiss et al. (1973) and Patterson, Hops, and Weiss (1975) describe an intervention process very similar to Stuart's (1969) earlier work. Couples are first taught to pinpoint and discriminate positive and negative behaviors in their spouse. These researchers assume that distressed couples are no longer able to effectively identify those behaviors that they find positive and rewarding and desire accelerating, and attempts to describe the behaviors of their spouses are often vague and nonspecific. The couples are taught to describe, in specific behavioral terms, the behaviors they find reinforcing and not reinforcing.

The next step in the intervention process involves training the couples in effective communication skills. Couples are taught to listen more carefully to their spouses, to share equally in conversation time, and to reduce aversive and sidetracking behaviors such as sarcasm and ridicule.

The last two steps delineated by Weiss et al. (1973) and Patterson, Hops, and Weiss (1975) are basic problem-solving skills training and contingency contracting training. The trend in the vast majority of studies conducted since 1969 (e.g., Patterson, Hops, & Weiss, 1975; Rappaport & Harrell, 1972; Weiss et al., 1973; Jacobson, 1977) is to teach specific skills to couples so that they may continue to resolve marital problems without the aid of an outsider; the couple's ability to problem solve on their own is, thus, the end product of intervention.

The evidence reported by Weiss and Patterson seems favorable. Two studies (Patterson, Hops, & Weiss, 1975; Weiss et al., 1973) examined the effectiveness of the treatment packages and significant gains were cited for distressed couples. Both the rate of positive interactions (e.g., compromises) and positive spouse-targeted behaviors (e.g., "How often my husband hugs me") improved from pre- to post-treatment. These results, however, remain equivocal for two reasons. First there is a lack of control

groups. The same criticism of Stuart's (1969) investigation (discussed earlier) is applicable. Distressed couples are assessed during a baseline phase, intervention (treatment package), and follow-up. To date, no comparisons have been made with a control group receiving no treatment or a nonspecific treatment control group. Also, the use of controlled single-subject design methodology is absent. Second, as in studies already cited (Stuart, 1969; Azrin et al, 1973), follow-up measures relied only upon self-reported adjustment, usually taken over the telephone.

A more thorough investigation of the effectiveness of Weiss and Patterson's treatment strategy was carried out by Jacobson (1977) who compared a minimal treatment, waiting list control group against a treatment group receiving pinpointing, communication training, negotiation training, and contracting. In addition, Jacobson included a series of replicated single-subject designs within the treatment group. The results indicated, for both observational and self-report measures, a substantial reduction of negative behaviors and increases in positive behaviors during problem solving interactions and improved reports of marital satisfaction, when compared to the control group. Improved changes from baseline to treatment were also reported for the majority of single-subject procedures attempted.

Conclusion and Purpose of Study

Although behavioral techniques have been successfully applied to resolve marital problems, only tentative conclusions can be drawn regarding their efficacy. The majority of intervention studies lacked important methodological features such as control groups. The use of the uncontrolled case study was predominant. With the exception of Jacobson (1977), none of the more conclusive single-subject designs (e.g., multiple baseline, concurrent schedule, etc.) have been utilized to assess behavioral marriage therapy efficacy. A second criticism is that most studies have relied extensively upon self-report data. Many critics (e.g., Glick & Gross, 1975) have discussed the potential dangers of self-assessment (i.e., socieal desirability, distortion of memory, the failure to anchor perceptions within an objective frame of referency, etc.). Recently, a multi-method approach to assessment has been recommended (Weiss & Margolin, 1975). Accurate assessment of a couple's marital distress is increased when several different measuring systems are concurrently employed (see Nunnally, 1972).

The purpose of this study was to demonstrate the effectiveness of contingency contracting for treating distressed couples using an acceptable and well documented single-subject design. A second purpose of this study was to approach the problem of multi-method assessment

using several dependent measures.

Method

Subjects

Two couples participated in the present study. Couple A had been married 8 years. The husband was 28 years old and the wife was 26 years old. They had two children, ages 4 and 8. Couple B had been married 2 years. The husband was 28 years old and the wife was 38 years old. They had no children (see Table 1 for a summary of the relevant demographic data).

Selection Procedure

Both couples were solicited by a local newspaper advertisement requesting the participation of couples who had been married between 2 and 9 years and were currently experiencing unhappiness in their marriage (see Appendix A). Ten couples responded to the advertisement.

Each couple was initially screened over the telephone. The telephone interviews were used to confirm the requirements specified in the advertisement (i.e., years married) and to provide the couples with a description of the study (see Appendix B). On the basis of phone responses, six of the ten couples were asked for in-person interviews. Two couples decided not to participate after receiving a description of the study. The remaining two couples were excluded from the study because they

Table 1

Relevant Demographic Data

Couple	Age		Occupation		Children	Marriage Length	Previous Therapy	
	H	W	H	W			H	W
A	28	26	Parts Sales	Recep-tionist	2	9.5 yrs	no	yes
B	28	38	Mechanic	House-wife	1	1.5 yrs	no	yes

presented problems that were inappropriate for the present investigation. For instance, the wife of one couple complained that her husband was an alcoholic. She was advised to contact the Family Service Center for counseling.

Four couples attended the interviews. These meetings were used to gather demographic data and to further screen the couples by having them complete the Lock-Wallace Marriage Inventory (Lock & Wallace, 1959) and the Areas of Change Questionnaire (Weiss, Hops, & Patterson, 1973). Both instruments scale couples along a distressed-nondistressed dimension. For selection, a single score was computed on each instrument by averaging the score obtained by the husband with the score obtained by the wife. Only two of the remaining four couples scored within the distressed range as indicated by both instruments (Lock-Wallace: any score 100; Areas of Change Questionnaire: any score 15). Couple A's Lock-Wallace mean score was 74.5 and their Areas of Change mean score was 49.5. Couple B's mean scores were 96.5 and 50 respectively. The two couples receiving scores within the nondistressed range were sent a letter of appreciation for their time and effort. (See Appendix C)

Setting

All therapy sessions were conducted in the living-room of the couple's home.

Design

A within couple multiple baseline across responses design was used to analyze the success of the treatment program. In this regard, a response was defined as any behavior a spouse identified in his/her partner which he/she felt needed improvement. For example, one wife complained that her husband did not discuss financial matters with her more often; discussing financial matters was identified as a target behavior.

Each spouse identified three target behaviors before treatment began. One response was selected from each spouse's list and treatment was then applied to both responses simultaneously. When a stable change was evidenced in the direction of desired outcome for this pair of target responses, the treatment was applied to the next pair of target behaviors until all three pairs had been treated. The stability of change was therapist-defined by visual inspection of the spouse-tracking treatment data (see below) in comparison to baseline data.

Dependent Measures

Spouse-Tracking. Throughout the study, couples were instructed to record the rate of occurrence for each target response they had identified. Each spouse used a daily check-list provided for this purpose (see Appendix D). Spouses were told, "Simply place a check next to the appropriate behavior each time you observe its occurrence.

If your partner does not agree that he/she engaged in the behavior, do not argue or debate. Save any disagreements you may have until the next session." The data were collected over the phone. These contacts were made daily and were restricted to requests for the previous day's data. The couples were required to hand in their checklists for that week during each scheduled session.

Marriage Adjustment Scale. The Lock-Wallace (Lock & Wallace, 1959) was administered as a pre-test and post-test follow-up measure in order to compare changes in global satisfaction for each couple. The pre-test was conducted during the initial interview at the University and the post-test was given during the last session at the couple's home. Follow-up was administered six weeks after the cessation of treatment.

Marital Interaction Coding System. The Marital Interaction Coding System (MICS) (Hops, Wills, Patterson, & Weiss, Note 1) was also used as a pre-test and post-test measure of the relationship improvement. The MICS is an observational coding system developed to assess a couple's communication skills. It consists of 30 operationally defined categories of behavior such as compromise, agree and putdown. Each couple is instructed to discuss current problems in the relationship. Their interaction is videotaped and scored by observers trained in the use of the MICS. For this study, all videotapes were scored by

Weiss' Marital Studies Group at the University of Oregon using trained and reliable observers.

Deposit. Each couple was required to pay 5% of their monthly income as a deposit. It was secured in a University account prior to treatment. As part of a deposit contract signed by the investigator and both spouses (see Appendix E), each couple was asked to identify their degree of affinity for such well known organizations as the Republican Party, the Democratic Party, etc. The organization the couples least liked was sent a five dollar contribution contingent upon every infraction of the deposit contract defined as (a) sessions not attended and (b) spouse-tracking assignments not completed. Both couples fulfilled all the requirements of the contract and were returned their original deposits at the completion of the study.

Procedure

Treatment was conducted in three main phases. The first phase was the basic skills and baseline phase involving spouse-tracking. During the second phase, the couple negotiated behavioral exchanges and established a contingency management contract. The last phase was follow-up which was conducted six weeks after the intervention procedure had been completed.

Baseline and basic skills. Sessions one and two first involved the spouses' identification of three

target behaviors each that they felt needed improvement in their partners. They were instructed to "Choose the three most important or serious behaviors you would like to see improved in your partner." The Potential Problem Areas Concerning Marital Adjustment Checklist (PACMA) (Weiss et al., 1973) as well as the Areas of Change Questionnaire (Weiss et al., 1973) was used to facilitate this task. The PACMA is simply a listing of potential problem areas such as finances and money management, health, and affection and closeness. Mutual agreement between partners as to the behaviors that constituted a problem was not required.

Once the spouses identified three target behaviors, they were asked to discuss each one with their partner and attempt to resolve the conflict. These interactions were videotaped and scored later using the MICS.

Secondly, couples were taught to provide operational statements concerning the behaviors they wished changed in their partners. They were trained using instructions, practice, and feedback. Instructions, for instance, consisted of telling each couple to be specific and clear when describing the behavior of their spouse. Practice involved having each couple describe different behaviors, such as affection and closeness, using operational statements. Feedback consisted of social reinforcement such as praise and head nods. Following training in defining

behaviors, each spouse was given instructions for tracking the behaviors of their partner using the daily checklists (refer to dependent measures section).

The baseline sessions were scheduled once per week for approximately one hour each. These meetings provided the couple with feedback conerning problems they may have encountered while collecting data and to assure the couples that the data would be used to devise a treatment program following baseline. Discussions were limited to data collection only.

Contingency contracting. This phase involved the negotiation of behavioral exchanges between spouses. Following the recommendations of Jacobson and Martin (1976), the quid pro quo contract model was used. In this model, the behavior change of one spouse is made contingent upon behavior change from the other spouse. For example, if the husband washes the dishes, the wife will mow the lawn. Each spouse was instructed to choose any one of the three target behaviors they had selected earlier. The couple Then discussed this pair of behaviors until an agreement had been reached regarding the equity of the frequency with which these behaviors were to be exchanged. For instance, one wife wanted her husband to bathe more often. The husband wanted his wife to praise him more often. After discussing each problem, they finally agreed that if the husband bathes at least once per day, the wife would, in

return, praise him at least three times per day. This agreement was written by the investigator and signed by both spouses. The investigator assisted the exchange process by offering suggestions and alternatives.

Once changes were evidenced by the simultaneous change in both targeted behaviors over baseline, two more target behaviors were selected. These behaviors were also negotiated until an agreement was reached. This agreement was included in the same contract written for the first two target behaviors. This procedure continued until all six target behaviors had been contracted.

Prior to the contracting of the last two target behaviors, however, the couples were instructed to discuss any unresolved problem areas or problem areas already contracted. This interaction was videotaped and scored as a post-test measure using the MICS.

Throughout the contingency management phase, couples and the therapist met for approximately 30 minutes per week. These meetings were restricted to discussions concerning the contract, data recording, or any topic relating to the couple's current targeted behaviors.

The Lock-Wallace Scale was administered after all six behaviors were contracted as an additional post-test measure.

Follow-up. Follow-up was taken at six weeks after treatment was completed. Each couple was sent two copies

of the Lock-Wallace Scale in the mail. (It was originally proposed that both the Lock-Wallace Scale and the MICS would be used at follow-up. However, the Marital Studies Group at the University of Oregon was unable to analyse any videotapes at the time this study needed them for follow-up. This was because all of their observers were unavailable.)

Results

The results of this study are presented for Couple A and then Couple B. Each dependent variable is examined separately. For spouse-tracking, graphs are used to indicate the extent of change from baseline to treatment. Daily frequencies for each target behavior are blocked ove days of three. Table accompany these graphs, explaining in detail each targeted-spouse behavior. Next, the Lock-Wallace scores are presented graphically for pre- to post-treatment and follow-up. Finally, the results of the Marital Interaction Coding System for negative and positive behaviors are given (see Table 3 for summary of negative and positive behaviors used with the MICS). These scores are percentages of the couple's total interaction from pre- to post-treatment. They are shown graphically.

Couple A

Spouse-tracking. Figure 1 shows the results of spouse-tracking (refer to Table 2 for an explanation of each behavior pair). There were moderate changes from

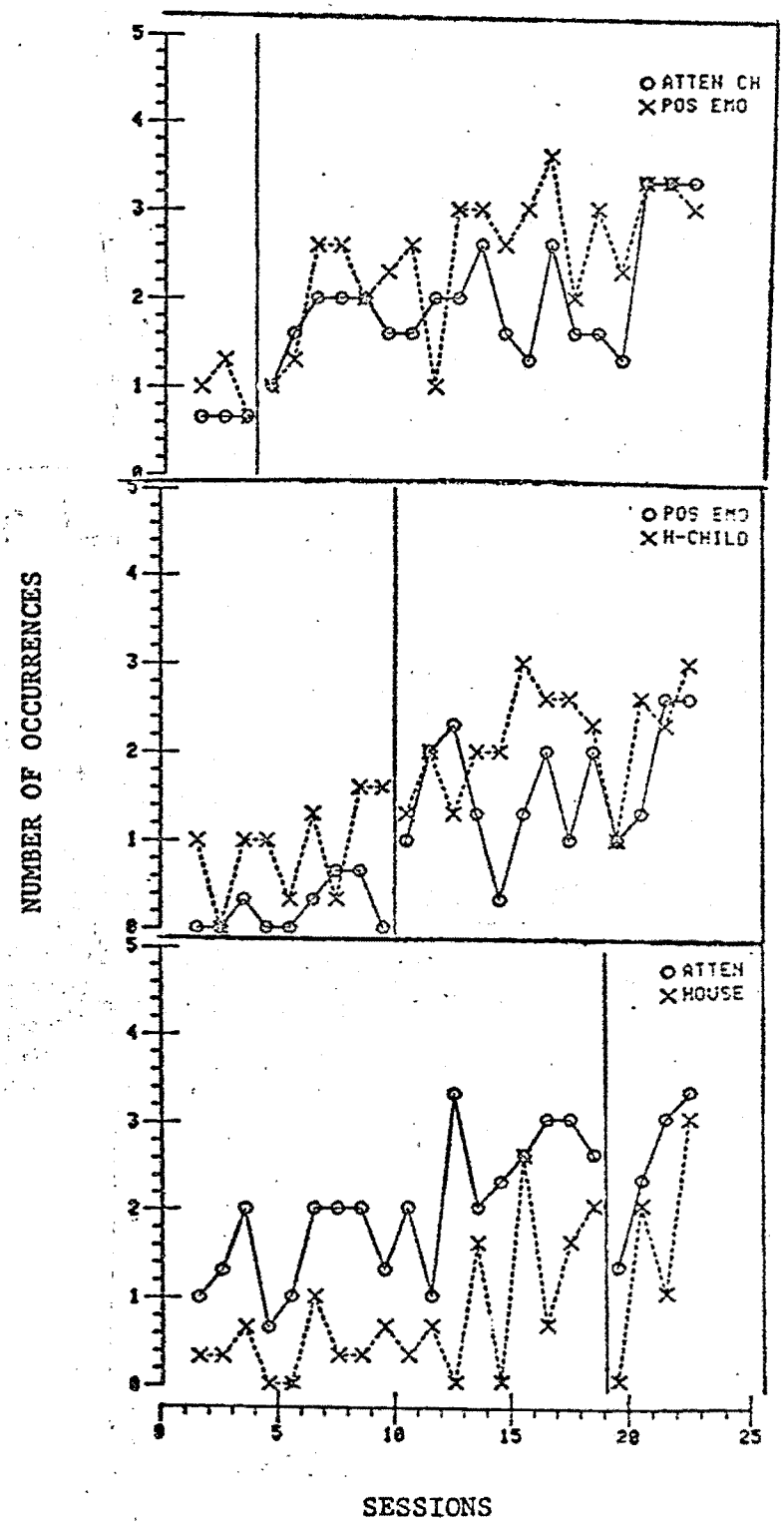

Figure I. Occurrences of spouse-targeted behaviors for Couple A (refer to Table 2 for a description of each behavior). In each case, "o" refers to changes in the wife's behavior, and "x" refers to changes in the husband's behavior.

Table 2

Spouse-targeted Behaviors for Couple A

Couple	Behavior	Definition
Couple A Husband's behaviors presented by wife.	Positive emotion	The number of physical or verbal statements which express positive emotion. This includes praise statements such as "I really like the way you look" and physical behaviors such as hugs and kisses.
	Helping with the Children	Helping ready the children before outings, attending to the children for more than 10 seconds while playing with them, etc.
	Helping with the house more	Helping to do the dishes, vacuuming, straightening the children's room, playing with them, etc.
Wife's behaviors presented by husband.	Helping with the children	Helping ready the children before outings, attending to the children for more than 10 seconds while playing with them, talking to them, etc.
	Positive emotion	The number of sincere statements which display positive emotion toward husband such as compliments, love statements, or any positive sincere praise statements.
	Attention to Husband	The amount of physical attention towards husband. This includes hugs, kisses, sitting with husband on the couch closely, etc.

baseline to treatment for both husband and wife on all behaviors. For the first pair of behaviors treated, the wife's "positive attention toward children" increased from a mean of .66 during baseline to 2.0 during treatment. The baseline mean for the husband's "positive emotion" increased from .98 during baseline to 2.5 euring treatment. When treatment was introduced for the second pair of targeted behaviors, the wife's "positive emotion" increased from .22 during baseline to 1.6 for treatment. The husband's "helping the children more" increased from .9 during baseline to 2.1 for treatment. The mean score for the wife's " attention to husband", for the last pair of behaviors treated, increased from 1.9 during baseline to 2.47 for treatment. The husband's "helping with the house more" increased from .72 during baseline to 1.5 for treatment.

Marriage Inventory Scale. The results of the Lock-Wallace for Couple A are presented in Figure 2. Their pre-test score was 74.5 and their post-test score was 100.5, an increase of 26 points. A six week follow-up showed a decrease of 14 points, from 100.5 to 86.5.

Marital Interaction Coding System. Figure 3 is based upon the results of the MICS for Couple A. The percentage of positive behaviors (see Table 3) decreased slightly from 29.9% for pre-assessment to 27% for

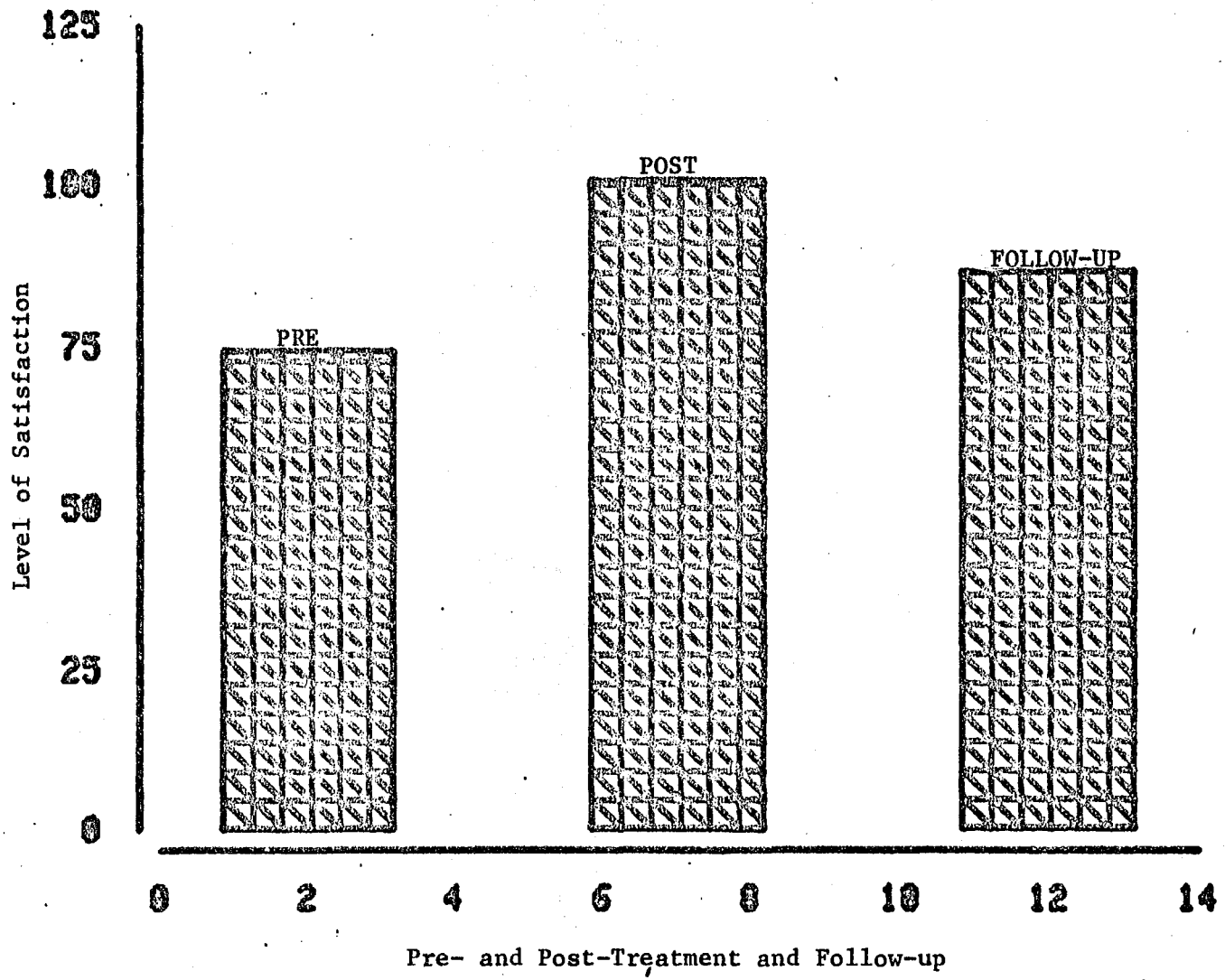

Figure 2. Marital Satisfaction Inventory scores for Couple A.

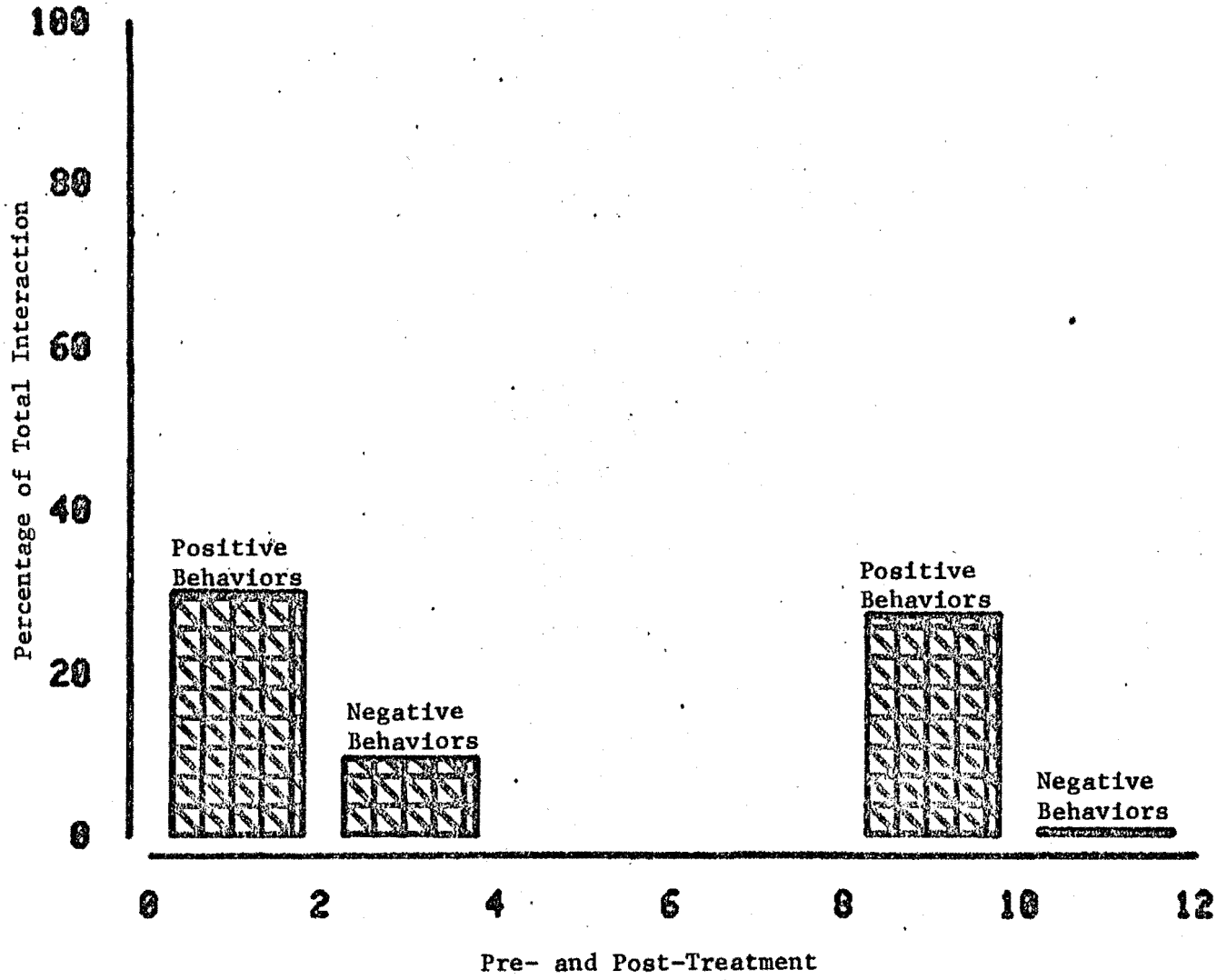

Figure 3. Marital Interaction Coding System results for Couple A. The percentage of positive and negative behaviors for pre- and post-treatment are given.

Table 3

A Summary of Positive and Negative Behaviors

Utilized by the MICS*

Group	Behaviors	Definition
Positive Verbal	Agree	Verbal response indicating that the two parties are in agreement on the issue.
	Approve	A verbal response indicating that the respondent personally favors something the other has said or done.
	Humor	Any statement that is clearly intended to be humorous and is primarily light-hearted in tone.
Positive Nonverbal	Assent	A brief verbal or nonverbal response as listener
	Attend	When one person is speaking and the listener is maintaining eye contact.
	Smile & Laugh	When either person smiles or laughs.
	Positive Physical Contact	When one person touches the other in a friendly or affectionate manner.
Negative Verbal	Complain	Statements in which a person bemoans the extent of his/her suffering without blaming the other for this suffering.
	Criticize	A hostile statement expressing unambiguous dislike or disapproval of a specific behavior in which the other engages.
	Deny Responsibility	When a person denies that he/she is responsible for a past or present problem.
	Excuse	When a person avoids accepting responsibility for a past or present problem by invoking an implausible

		explanation, spurious reason, or weak rationale.
	Mind reading	Statements such as "I know what you are thinking" and "You did that because".
	Put down	A statement which is meant to demean or embarass
Negative Nonverbal	No response	When a response from either person is expected, but none is forthcoming.
	Not tracking	When a listener does not maintain eye contact with the speaker.

*Note: The reader is referred to Patterson, Hops, & Weiss (1972) for a more complete definition of each behavioral category.

postassessment. The percentage of negative behaviors decreased from 9.5% for preassessment to 0% for post-assessment.

Observer agreement was calculated by dividing the number of agreements between two observers by the number of agreements plus disagreements. An agreement was scored when observers recorded the same behavior in identical sequence over a 30 second time block (Vincent, Weiss, & Birchler, 1975). Couple A's pretest videotapes were scored at 74% reliability. Their posttest videotapes were scored at 82%.

Couple B

Spouse-Tracking. The results of the spouse-tracking procedure for Couple B are presented in Figure 4 (see Table 4 for an explanation of each spouse-targeted behavior). There were slight changes for the majority of behaviors for both husband and wife. For the first pair of behaviors treated, the wife's "praise statements" increased from a mean 1.6 during baseline to 2.86 for treatment. The husband's "attention to hygiene" increased slightly from .56 during baseline to .68 for treatment. When treatment was introduced for the second pair of behaviors, the wife's "positive physical attention" increased from a mean of 1.67 during baseline to 3.0 for treatment. The husband's "discussions of financial matters" increased from .39 during baseline to 1.03 for

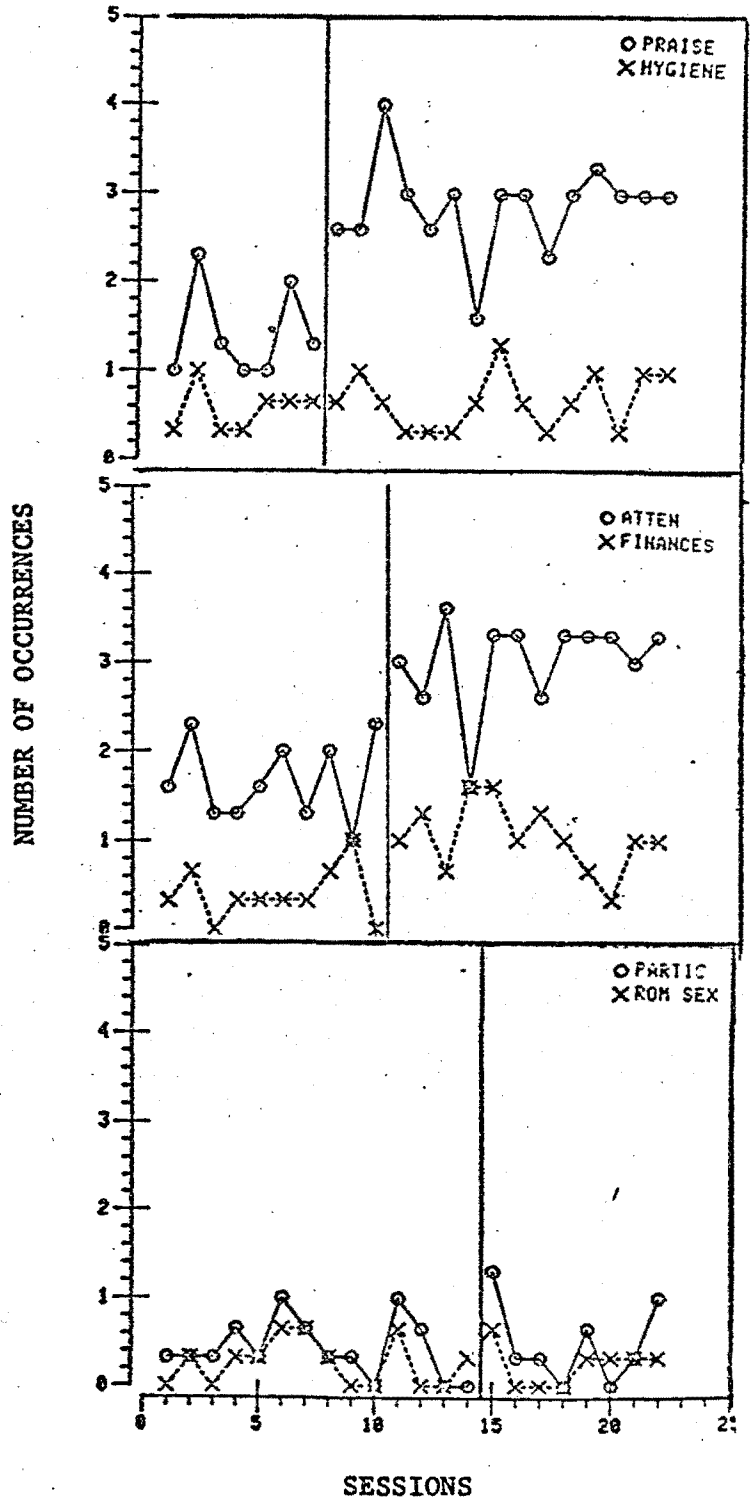

Figure 4. Occurrences of spouse-targeted behaviors for couple B (refer to Table 4 for a description of each behavior). In each case, "o" refers to changes in the wife's behavior, and "x" refers to changes in the husband's behavior.

Table 4

Spouse-targeted Behaviors for Couple B

Couple	Behavior	Definition
Couple B		
Husband's behaviors presented by wife	Attention to hygiene	Showering daily, using a deodorant and using a mouthwash when wife requests
	Discussions of financial matters	Discussions of financial matters including talks about bills, grocery money, etc.
	Romantic sex	Allowing wife to make sex more romantic out of the bedroom (i.e., living room), dressing up, rub downs, more initiative on wife's part, etc.
Wife's behaviors presented by husband	Praise statements	The number of sincere positive statements which recognize husband's work, accomplishments, appearance, etc.
	Positive physical attention	Physical attention to husband at home or in public. Also, when wife makes husband feel like he really "belongs"
	Participate more	Wife helps plan and organize evenings when husband and wife go out.

treatment. The last pair of behaviors treated showed the wife's "participate more" increasing very slightly from .42 during baseline to .49 for treatment. There was virtually no change for the husband's "romantic sex". The baseline mean was .25 and the treatment mean was .247.

Marriage Inventory Scale. Shown in Figure 5 are the results of the Lock-Wallace for Couple B. Their pre-assessment score was 97 and their post-assessment score was 92.5, a slight decrease of 4.5 points. A six week follow-up showed an increase of 11 points from post-assessment to 103.5.

Marital Interaction Coding System. The MICS results for Couple B are shown in Figure 6. There was an increase in the percentage of positive behaviors (refer to Table 3) from 25.7% for pre-assessment to 34% for post-assessment. Negative behaviors increased only slightly from 8.9% for pre-assessment to 10% for post-assessment.

Couple B's pre-test videotapes were scored at 91% reliability. Their post-test videotapes were scored at 76%.

Discussion

Contingency contracting has been demonstrated to be an effective treatment procedure for distressed couples (Patterson, Hops, & Weiss, 1975; Weiss, Patterson, & Hops, 1973). The majority of research conducted, however, has been uncontrolled case studies (Jacobson & Martin, 1976).

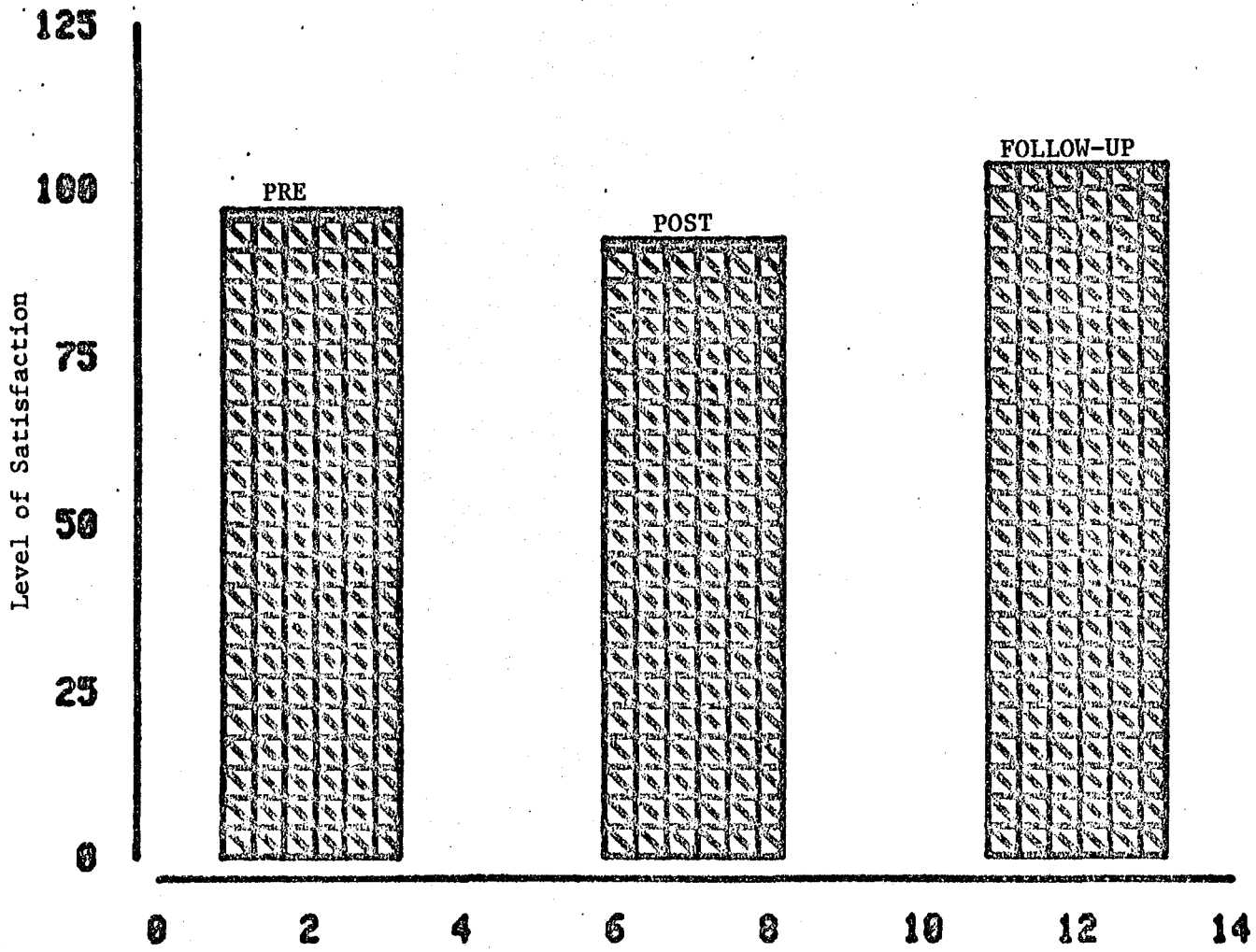

Figure 5. Marital Satisfaction Inventory scores for Couple B.

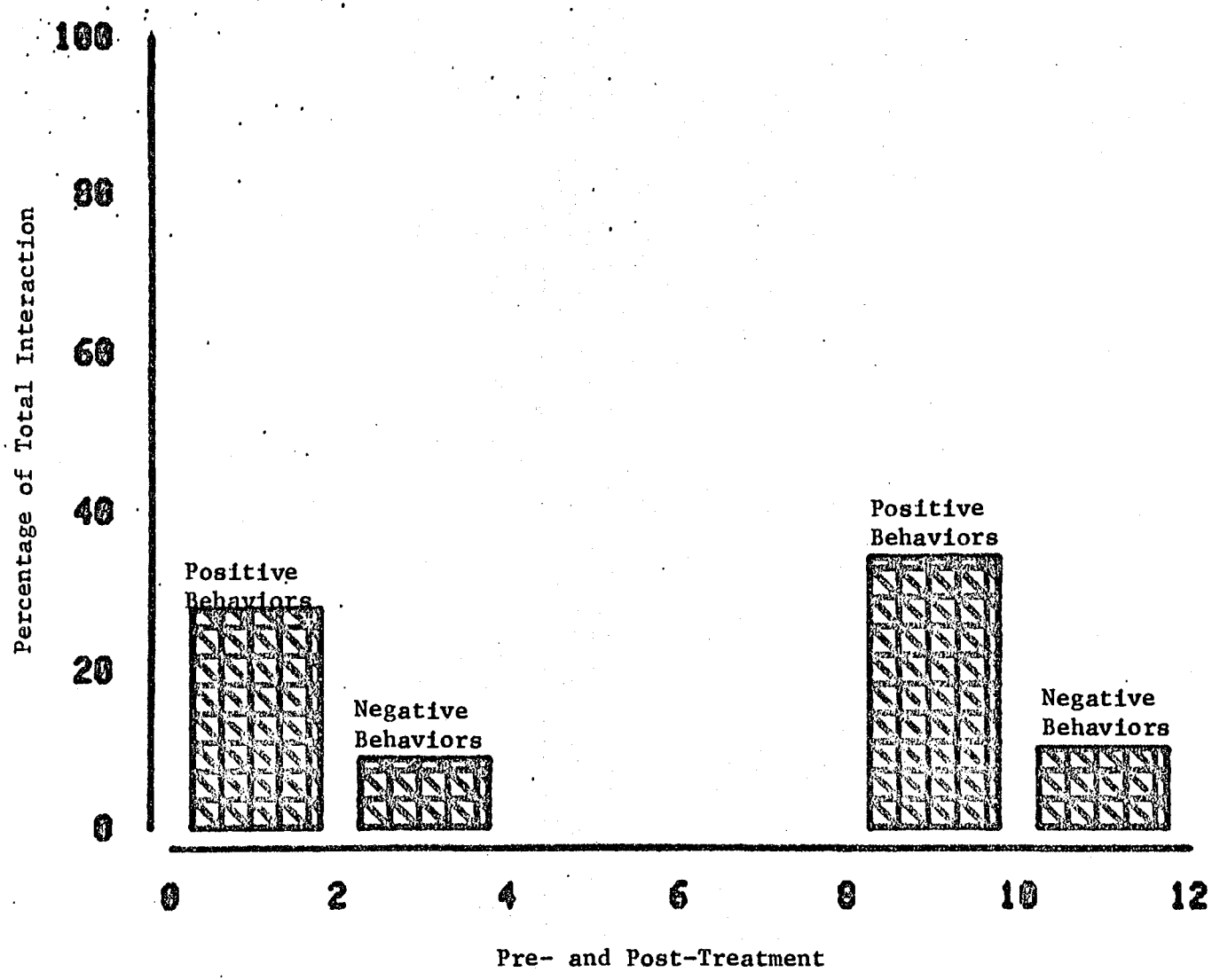

Figure 6. Marital Interaction Coding System results for Couple B. The percentage of positive and negative behaviors for pre- and post-treatment are given.

The present study used a controlled single-subject design to show the usefulness of contingency contracting in combination with pinpointing for helping distressed couples. The results offer some support for these procedures.

Both couples experienced moderate changes from baseline to treatment for the majority of targeted behaviors as indicated by spouse-tracking. Couple A improved the most from baseline to treatment. These results are similar to Jacobson (1977) who tested the effectiveness of contingency contracting for treating distressed couples using a multiple baseline design. Of the four couples treated, each showed improvement. The present study also obtained results from the spouse-tracking procedure that were consistent with Weiss and his associates (Weiss et al., 1973) on contingency contracting and communication training.

The degree of treatment generalization for Couple A makes it difficult to assess the effects of the spouse-tracking procedure unequivocably. When treatment was introduced on the first pair of behaviors, coinciding changes were evidenced for the second pair, "positive emotion" and "helping with children more". The third pair of behaviors also changed simultaneously when the second pair received treatment. This "carry over" effect caused behaviors to remain nearly identical for Couple A from pre- to post-treatment. The percentage of negative behaviors, however,

dropped sharply. For Couple B, almost the opposite occurred. The percentage of negative behaviors remained the same, and the percentage of positive behaviors improved. It is interesting to speculate that the decrease in negative responding for Couple B could be reflective of Couple A's comparative improvement as evidenced from the Lock-Wallace and spouse-tracking measures. In other words, are negative behaviors more responsive to change as the couple improves? Research has demonstrated that this is not the case. Changes in positive behaviors are usually accompanied by changes in the opposite direction of negative behaviors, as measured by the MICS (Weiss, Hops, & Patterson, 1973).

The degree of measureable distress in the relationship using the MICS seem to be a function of the severity of the problems discussed by the couple. The more serious the problem, the more the investigator is likely to sample or observe distressed behaviors such as criticisms and complaints. When couples are observed interacting and their behavior is coded using MICS, they are usually instructed beforehand to discuss each problem(s) for a specific period of time (i.e., ten minutes/problem). This procedure, instead of permitting the couple to choose which problem they would like to discuss, helps structure the couple's interaction so that more serious problems are not avoided. The present investigation required that

couples discuss each problem they had identified, but did not specify the exact amount of time each problem was to be discussed. Couples A and B were instructed to spend an approximately equal amount of time on each problem. This procedural oversight limits any definite conclusions regarding the MICS data for the above reasons.

On the basis of this study and the literature, a number of suggestions for future research seem warranted. First, more controlled studies are needed. The use of control groups and nonspecific treatment groups would provide more definitive answers than are now available. Also, single-subject design methodology requires attention from the behavioral community. In fact, the use of appropriate single-subject designs in marital studies would be an important focus of research.

This study attempted to examine contingency contracting using a multiple baseline design across responses. Unfortunately, experimental control was not demonstrated. This lack of methodological rigor might have been prevented if the responses chosen for investigation were more independent of one another. The selection of responses in any applied study, however, is rarely governed by the independence of behaviors. The investigator's primary concern is the identification of problem behaviors most likely to benefit the client/subject. In marital research on contracting, this is accomplished by having

each couple select behaviors they would most like to see improved in their relationship.

There are alternative single-subject designs which could be used to study the distressed marriage. For instance, the multiple baseline design across problem behaviors would eliminate the concern for treatment generalization, but the researcher would have to contend with subject demoralization since couples could remain on baseline for long periods. This problem might be minimized if the number of observations were reduced (1 per week, instead of 1 per day). Another example is the reversal design (Hersen & Barlow, 1975). The main objection to its use with distressed couples, though, is the reversal phase. If the investigator has been successful in improving the relationship, he/she does not want to return the couple to its former unhappy state. Perhaps one design worth examining more closely is the changing criterion design (Kratochwill, 1978). Although it is not as experimentally sound as the multiple baseline or reversal designs, it does not share some of the same problems (i.e., subject demoralization).

Second, the spouse-tracking procedure is an important assessment tool in marital research since (a) many marital behaviors occur too infrequently to be accessible to direct observation, and (b) many behaviors (i.e., sexual

behaviors) are not available for public viewing (Weiss & Margolin, 1975). If this type of assessment method is to be used, though, techniques for determining reliability need to be established. Weiss, Hops, and Patterson (1973) used a procedure called "Love Days". One spouse would be instructed, without the other's knowledge, to increase his/her positive behaviors on "Love Days", the investigator would have some confidence that behaviors in the marriage were being recorded reliably. The reason "Love Days" were not incorporated in the present study was because of the obtrusiveness of the procedure. The demand characteristics of a "Love Day" reliability probe might have interfered with the influence of contracting in effecting behavior change. In other words, the therapist would have difficulty pinpointing the source of any behavior change; was the change produced by the therapist's directive to increase positive behaviors 100%, or was the behavior change caused by contracting alone.

Jacobson (1977), while investigating the efficacy of contracting with distressed couples, attempted to improve the reliability of a spouse-tracking procedure by minimizing the influence the husband and wife had on one another's data recording. Each spouse was met with privately before treatment. The investigator chose two responses for the spouses to record and gave them

explicit instructions not to reveal to their partner which responses were being recorded. It seems obvious that prohibiting the couples from disclosing the responses they were recording could lead to feelings of mistrust and resentment. It might even have become a "game" to find out what the hidden behaviors were, thereby aggravating instead of minimizing the influence the husband and wife had on each other's data recording.

The optimal procedure for assuring reliable data is training the couples to accurately observe and record their spouse's behavior. Some of the same techniques for training observers could be implemented. For instance, a periodic review of the target behavior definitions might insure greater reliability (See Johnson & Bolstad, 1973).

A third area which deserves more attention is the model of contracting used to treat couples. Basically, there are two models, the quid pro quo and the "good faith". In the quid pro quo, the behavior change of one spouse is made contingent upon behavior change from the other spouse. For example, the husband agrees to fix dinner more often (3 times per week) if, in return the wife praises the husband more. This type of contract was used in the present study because it is relatively easy to implement. Desired behavior change is used as a reinforcer instead of separate reinforcers

for each spouse and for each behavior change (Jacobson, 1977; Weiss, Birchler, & Vincent, 1974). Weiss et al. (1974) have criticized this contractual model, however. According to these investigators, the if X, then Y format of the quid pro quo makes it necessary for one partner to change first. Conversely, if not X, then not Y suggests "... that in a relationship lacking in trust, requesting that one partner change unilaterally is untenable" (Jacobson & Martin, 1976).

Weiss et al. (1974) have proposed as an alternative to the quid pro quo the "good faith" model. In this arrangement, the behavior change of one spouse is not contingent upon the behavior change of the other spouse. Instead, separate reinforcers for each spouse and each behavior are discovered. For example the husband will be allowed to fish once per week if he mows the lawn once per week.

To date, there is no empirical support for the good faith model. This study used the quid pro quo because of its greater efficiency in implementing contracting. Research needs to examine both models.

In conclusion, the application of behavior therapy to marital problems is a recent development, and as such many procedures and techniques remain untested. This study was conducted in an attempt to provide answers to questions largely ignored by most behaviorally oriented

marriage therapists. It succeeded only partially in this effort. However, it did provoke several research considerations which deserve attention in future investigations.

Reference Notes

Note 1:
Hops, H., Wills, T. A., Patterson, G. R., & Weiss, R. L. Marital interaction coding system. Unpublished manuscript, University of Oregon, December, 1971.

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APPENDICES

A. Newspaper Advertisement

B. Phone Interview

C. Letter of Appreciation

D. Spouse-tracking Recording Sheets

E. Deposit Contract

APPENDIX A

Newspaper Advertisement

Notice Married Couples: Researchers at the University of the Pacific's Department of Psychology are seeking the participation of married couples for a project beginning sometime this December. We are interested in couples who have been married between 2 and 7 years and are currently experiencing some minor problems or unhappiness in their marriage and would like to examine their relationship. Please contact Blake H. Tearnan: Department of Psychology University of the Pacific for inquiries. Phone: 946-2132.

APPENDIX B

Phone Interview

General Introduction Hello, my name is Blake Tearnan. Thank you for calling. First, let me tell you something about the Marriage Project before you make a decision to participate or not.

Overview of Project and Its Goals. The Marriage Project is part of a research program being conducted at the University of the Pacific's Department of Psychology to study marital relationships. The program's primary goal is helping couples to get along better and be happier. This is accomplished by having spouses learn to interact and behave differently toward one another. We believe that the way people treat one another determines in large part how satisfied they are with their marriage.

Basic Requirements

1. Do you have any questions? (If answer is yes, explain further) Good. What we are interested in is couples who are not currently separated or divorced and
2. where both spouses want to improve their relationship.
3. The program will last approximately 6 to 7 weeks and
4. will require a deposit equal to 5% of your monthly income. The reason we want couples to pay a deposit is to help motivate them to participate in

the program. All couples will be responsible for completing certain assignments at home and for attending each scheduled session. If everything is completed, then the deposit will be refunded in full. If not, then a small amount will be deducted from the origianl amount, and the remaining amount will be given to you at the end of the program.

Scheduling of Interview Do you have any further questions (If yes, explain further). Good. What I would like to do now is schedule you for a meeting with me at the University. This will simply involve you and your wife/husband completing two short questionnaires. The information from these questionnaires will help us decide if you could benefit from the marriage program. We might find, for example, that you and your spouse would probably be more satisfied receiving marriage counseling at one of the various agencies in town. In any case, shortly after you attend this meeting, I will be contacting you by phone or through the mail.

Let me schedule you for an appointment.

APPENDIX C

Letter of Appreciation

John Doe
1 Doe Street
Doe, California

I wish to express my sincere appreciation for the time and effort you spent participating in the initial processes for my Marriage Research Project. Unfortunately, we cannot accommodate you due to the particular nature of our project and the type of couples we are selecting. This does not mean that we found you too unhappy or unable to improve in your relationship. Again, we are interested in couples experiencing specific behavioral problems that we feel would answer some basic research questions. Since you did express interest in improving your marriage by contacting us, we have provided a list of alternative resources you might wish to call for their services, information, etc. Please feel free to contact me if you have any further questions and need my assistance in some way.

Sincerely,

Blake H. Tearnan

BHT/jaf
enclosure

1. Catholic Social Service of Stockton
   1205 North San Joaquin
   Ph: 948-1442

2. Center for Couseling & Behavior Therapy
   2920 Pacific Avenue
   Ph: 463-0423

3. Family Service Agency
   1130 North San Joaquin
   Ph: 948-2354

APPENDIX D

Spouse-tracking Recording Sheets

Couple_____ Dates_____ Name_____

Behaviors	Frequency							TF
	M	T	W	Th	F	S	Sd	
I.								
2.								
3.								
4.								
5.								
6.								

Comments Concerning Data Collection Procedures: _____

APPENDIX E

Deposit Contract

It is hereby agreed that a deposit for the amount of _____ shall be paid by the _____. The deposit shall be secured in a checking account at the Bank of America and will be fully refundable upon successful completion of the marriage program defined as follows: (A) all homework assignments specified by the investigator shall be completed in full and turned in on time; (B) all scheduled sessions will be attended by both of the undersigned.

For each infraction of the above agreement by one or both of the undersigned, a five dollar fine will be assessed and deducted from the remaining amount of the deposit. The five dollars will be mailed to the organization(s) least liked as indicated prviously by both of the undersigned.

Signed:

_____
Wife

_____
Husband

_____
Investigator as Witness