VIDEOTAPE AND VERBAL FEEDBACK: EFFECTS ON BEHAVIOR AND ATTRIBUTIONS IN DISTRESSED COUPLES

VIDEOTAPE AND VERBAL FEEDBACK: EFFECTS ON BEHAVIOR AND ATTRIBUTIONS IN DISTRESSED COUPLES

BY

CATHERINE MARTOS FICHTEN

A dissertation presented to the Department of Psychology and the Faculty of Graduate Studies and Research of McGill University in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August, 1978

Abstract

This study examined the effects of verbal feedback and videotape playback on distressed couples' communication, and investigated the effects of visual reorientation on spouses' perceptions and causal attributions. It was predicted that subjects' perceptions and attributions would be distorted in a self-serving manner and that videotape playback would alter both communication behaviors and cognitions. After conflictual discussion, spouses received a no-video treatment or video playback from their own, their spouse's or an observer's vantagepoint. Perceptions and attributions were assessed before and after video viewing. Half of the subjects received verbal feedback before engaging in another discussion. Results indicate that spouses perceived their own behavior more favorably than their partner's and that they made self-serving attributions which visual reorientation did not alter. Neither video playback nor verbal feedback had significant effects on communication behaviors, perception or causal attributions. Implications of the results for behavioral couple therapy and the study of actor-observer attributional differences are discussed.

Résumé

Cette étude portait sur les effets de la rétroaction verbale et de la reprise magnétoscopique sur la communication entre partenaires de couples perturbés. Les effets de ré-orientation visuelle sur les perceptions et les attributions causales des partenaires étaient aussi investigués. Les hypothèses suggéraient que les perceptions et les attributions des sujets seraient faussées en faveur du sujet qui s'évalue, et que celles-ci comme les comportements de communication, seraient influencés par la reprise magnétoscopique. A la suite de la discussion d'un conflit, les époux ne visionnaient aucune reprise magnétoscopique, ou visionnaient une reprise de leur point de vue, de celui de leur partenaire ou de celui d'un observateur. Les perceptions et les attributions étaient évaluées avant et après le visionnement. La moitié des sujets recevaient de la rétroaction verbale avant de s'engager dans une autre discussion. Les résultats indiquent que les époux percevaient leur propre comportement de façon plus favorable que celui de leur partenaire, et que leurs attributions étaient davantage en leur faveur, ce que la ré-orientation visuelle n'a pas influencé. Ni la reprise magnétoscopique, ni la rétroaction verbale n'ont influencé significativement les comportements de communication. La discussion porte sur les implications des résultats pour la thérapie de couple behaviorale, et pour l'étude des différences d'attribution pour l'acteur et l'observateur.

Acknowledgements

Completion of a study of this nature requires luck as well as the cooperation of many people: a log, kept throughout the project, indicates that at least 150 people were involved in its realization and completion. I would like to express sincere appreciation to them all. Special thanks are due to the couples who volunteered their relationship to science, and to:

John Wright, who, apart from making many valuable contributions to this dissertation as my thesis advisor, dispensed sobering advice, friendship and moral support in generous measures.

Jake Fichten, who doubled as husband and electronics expert. His plans and desires were often thwarted by this project; I am truly grateful for his patience and forbearance.

Hend Ajus, Chake Berberian, Edward Clarke, Pam Dixon, Tim Gallagher, Ed Kubeczek and Meeda Mashal, who contributed useful suggestions as well as many unpaid hours as coders and assistants. May they be spared the combination of chocolate chip cookies and midnight interviews, forever.

John and Zita Martos, who were always willing to help out in tight spots. They spent long hours scrutinizing thousands of tiny numbers in the quest for mispunched computer cards; 688 to both of them.

Rhonda Amsel, who provided many hours of statistical consultation as well as encouragement and assistance in the struggle with massive computer output.

Virginia Douglas, Jim Ramsay, and Don Taylor who, as members of my thesis committee, gave many helpful suggestions and useful criticisms.

Lillian Adler, who proofread till dawn.

Elizabeth Doucet, whose skill and speed at translating hieroglyphics into words borders on the magical.

Tony Hug, Jean-Louis Martin, Rudy Narine, André Hammond, Hal Myers and Joe Vannikus, who all helped to avert major electrical disasters, and to

Betsy Hirst, public relations specialist extraordinaire; without her help there may not have been subjects in the study.

Finally, sincere thanks are due to the Montreal post office workers who, in the midst of the mailing phase of the study, chose not to turn their work slowdown into a strike.

Table of Contents

Table of Contents (continued)

Table of Contents (continued)

List of Tables

List of Tables (continued)

List of Figures

Introduction

This thesis is concerned with the evaluation of the effects of two therapeutic techniques used in behavioral couple therapy: videotape playback and instructional verbal feedback. Marital therapists frequently use both procedures; however, the independent effects of videotape playback and of instructional verbal feedback on couples' communication behaviors have not yet been assessed in controlled studies. Although several lines of research suggest that these techniques could be effective in altering maladaptive behaviors, findings to date have led some investigators to caution potential users about possible deleterious consequences. The results of the present investigation should, therefore, be of interest to marital therapists.

Although the measurement and modification of cognitive processes has been extensively researched in experimental and social psychology, findings in these areas have not yet had a strong impact on the theory, research or practice of behavioral marital therapy. The present study is concerned with both behavioral and cognitive changes; videotape playback was selected as one of the intervention techniques to be evaluated partly because of the promise it holds for the modification of both cognitions and behavior.

Thus, a second objective of the present investigation is to study the effects of visual reorientation through videotape playback on distressed spouses' perceptions and attributions about the causes of their own and their partner's behaviors during conflictual interaction. The evidence available in the social psychology literature suggests that altering the focus of one's attention can change one's perceptions and attributions. Therefore, videotape playback may be useful in the modification of distorted perceptions and cross-blaming attributions which often characterize distressed spouses.

Findings in the social psychology literature cannot be automatically generalized to a consideration of the nature and modification of distressed spouses' perceptions and attributions. There are many important differences between partners from a troubled relationship and the college students typically studied in social psychological investigations; these differences may affect the alterability of perceptions and attributions. For example, as spouses have known each other for a long time, their impressions of themselves and their partner are likely to be stable and well established. Strongly held impressions, possibly biased by motivational factors, may not respond to the interventions which have been shown to be useful in changing college students' perceptions and attributions about the behavior of hypothethical or unknown others.

Another important difference is the nature of the actions evaluated by subjects. Married partners, when they rate their own and their spouse's behaviors during conflictual interaction, are making inferences about relevant actions which have personal consequences; this is considerably different from the neutral and personally irrelevant situations in which college students' evaluations have been studied. The strategies which are useful in modifying perceptions and attributions about inconsequential actions may not be effective in changing cognitions about meaningful and salient events. Nevertheless, the findings in the attribution literature suggest that visual reorientation may alter the perceptions and causal attributions of spouses. Although it would seem that such evaluation could have interesting implications for marital therapy, the effects of visual reorientation through videotape playback on the cognitive and motivational biases of distressed spouses have not yet been examined.

There are many reasons for believing that videotape playback to distressed couples might lead to behavioral and cognitive changes and that instructional verbal feedback might lead to improvement in communication behaviors. In the present study, an attempt is made to explore some of these reasons. Because attribution theory principles may be used to explain why videotape playback could cause behavioral changes, the predictions tested are derived both from attribution theory and from the behavioral approach to marital distress.

Studies of marital therapy, videotape effects, social skills training, and interpersonal perception and attribution all pertain to the hypotheses in the present investigation. The following review of the literature summarizes and integrates the relevant findings and theoretical formulations and highlights the controversies and unsettled issues. The need to evaluate the cognitive and behavioral effects of videotape and instructional verbal feedback in distressed couples is thus made apparent.

Marital Conflict and Therapy

A number of recent reviews of outcome studies indicate that marital therapy in general (Beck, 1975; Gurman & Kniskern, in press) and behavioral marital therapy in particular (Greer & d'Zurilla, 1975; Jacobson & Weiss, in press; Wright & Mathieu, 1977) have demonstrated moderate effectiveness. However, it is not at all clear why and how these interventions produce change (Jacobson & Martin, 1976). Nor is there consensus on either what causes marital distress or what the goals of therapy should be.

Most clinicians, whatever their theoretical persuasion, tend to conceptualize marital problems as primarily caused by disturbed and ineffective communication between spouses (Gurman, 1975; Knox, 1972; Thomas, 1977). This view is consistent with the self-reports of couples, since data indicate that

lack of communication is the most common presenting complaint (Greene, 1970). However, the rubric "disturbed communication" has been used to describe a variety of different phenomena: poor interpersonal problem solving (Vincent, Weiss & Birchler, 1975), lack of empathy and support (Bienvenu, 1970; Ely, Guerney & Stover, 1973; Satir, 1964; Valle & Marinelli, 1975; Wells, Figurel & McNamee, 1975), sending double messages (S. Miller, Nunally & Wackman, 1976; Watzlawick, Beavin & Jackson, 1967), disagreement caused by ambiguous rules and systems (Haley, 1971; Minuchin, 1974), use of coercive tactics (Harrel & Guerney, 1976; Patterson, Hops & Weiss, 1975), "crossed transactions" (Berne, 1964), and inappropriate assertion (Eisler, Miller, Hersen & Alford, 1974; Lehman-Olson, 1976). Precise definition and measurement of disturbed interaction and communication were, until recently, extremely rare.

Another frequently cited cause of marital conflict is faulty interpersonal and self perception; studies have shown that distressed spouses' perceptions of their marriage (Frank & Kupfer, 1976) and of each other (Laing, Phillipson & Lee, 1966; Murstein & Beck, 1972) appear to be markedly distorted. Perceptual biases may partially account for the poor reliability of spouses' reports concerning their own and their mate's behaviors (Olson & Rabunsky, 1972). Thus, distressed couples may be especially poorly suited to make behavioral observations of their acts (Weiss & Margolin, 1977).

In addition to perceptual biases, troubled couples also may make faulty and non-symmetrical attributions concerning the causes of conflict and who is to blame (Thomas, Walter & O'Flaherty, Note 1). Hurvitz (1975) argues that in the attempt to understand behavior, distressed spouses make fewer instrumental hypotheses which tend to facilitate problem solving and more terminal hypotheses which usually interfere with problem resolution. These latter hypotheses

frequently take the form of attributing problems to the spouse's acts, dispositions and traits. For example, one of the typical claims of spouses seeking marital therapy is that the problems are largely attributable to the other person; this seems to be especially true of wives' complaints (Gurin, Veroff & Feld, 1960). To the extent that such attributional biases are systematic and result in each spouse believing that the other is responsible for conflict, these biases tend to interfere with both effective communication and with therapy. Neither partner is willing to change since the other is to blame.

Marital therapists, like other clinicians, can be dichotomized into those whose primary goal is to change overt behaviors and those whose major goal is to effect cognitive changes (Glick & Gross, 1975). Procedures aimed at changing overt behavior (Azrin, Naster & Jones, 1973; Patterson et al., 1975; Stuart, 1975) have, to date, received the most attention from behaviorally oriented therapists. However, such an approach appears to be only partially adequate, as the perceived reality of a situation may also be important in understanding and altering behavior. Glick and Gross (1975) and Olson (Note 2) convincingly argue that the integration of self-report data with information obtained through observational study is vital both for a better theoretical understanding of discord as well as for conducting successful marital therapy. Indeed, Olson suggests that couples in therapy have such discrepant views about the causes of the same behavior that training should be directed toward making spouses better observers of their own and their partner's actions.

Recently, behavior therapists have broadened their approach to encompass cognitions, meanings, perceptions and attributions (Goldfried & Davison, 1976; Kopel & Arkowitz, 1975; Mahoney & Arnkoff, in press). Although behavioral

marital therapists have started to include cognitive and self-report measures in their assessment packages (Jacobson & Weiss, in press; Wright & Mathieu, 1977), they have not, as yet, incorporated cognitive procedures or goals in the therapy itself. There also has been an increasing interest in applying principles and methods from experimental and social psychology to clinical problems (Jacobson & Weiss, in press). For example, principles from attribution theory, a cognitive formulation well known to social psychologists, may be useful in combination with an overt behavioral approach in the assessment, explanation and treatment of the disturbed communication, distorted perceptions and denial of responsibility for discord frequently found in distressed couples (Gurman & Knudson, in press; Wright & Fichten, 1976). Because the hypotheses explored in the present study are derived both from attribution theory and from the behavioral approach to marital therapy, these two areas will be considered in greater detail.

Behavioral approach to marital therapy. Behavioral marital therapy is based loosely on social learning theory (Bandura, 1977), which incorporates Mischel's (1973) situational view of the control of behavior. Marital conflict also is conceptualized in terms of Thibaut and Kelley's (1959) social exchange theory and its extension by Patterson, Weiss and their colleagues (e.g., Patterson & Reid, 1970) to include reciprocity and coercion in social exchanges between spouses. Behavior therapists who work with couples also have been influenced by communication systems theorists (e.g., Haley, 1971), and have proposed that reliance on coercive rather than positively reinforcing tactics is partly due to poor communication and problem solving skills (Birchler, Weiss & Vincent, 1975; Gottman, Notarius, Markman, Bank & Yoppi, 1976; Vincent et al., 1975).

Perhaps the most interesting behavioral approach to the problem of conceptualizing, defining, observing and treating disturbed marital interaction has been that of the Oregon group (e.g., Patterson, Weiss & Hops, 1976), who have integrated previous formulations. They start with the assumption that conflict in any marital relationship is inevitable, as couples have to continually resolve problems in such areas as finances, children and sex. Consequently, these authors hypothesize that it is not the mere presence of conflict, but a couple's method of resolving it, that leads them to seek therapy.

Most behavior therapists who deal with couples assume that in the attempt to achieve reciprocity, distressed spouses place excessive reliance on aversive rather than positive control tactics. It is usually assumed that coercion is maintained by the reinforcement schedules in the relationship (Vincent et al., 1975), that is, punitive behaviors are used to influence the other because these lead to desired changes, at least on a short term basis. A major objective in therapy is to teach both spouses skills that will enable them to change their relationship through positive rather than aversive means. It is expected that marital satisfaction will improve as couples decrease their rate of negative and increase their rate of positive reinforcement (Stuart, 1975). Consequently, behavioral intervention programs typically include training in communication, problem solving, expression of affect, and negotiation in social exchange. Many methods are used to teach these skills, including: verbal instructions, videotape playback, therapist feedback, self and spouse monitoring, modelling, role play, rehearsal, homework and contingency contracting (Wright & Mathieu, 1977).

Outcome studies of behavioral marital therapy have recently been reviewed by Gurman and Kniskern (in press) and by Jacobson and Weiss (in press). The authors of these two papers come to different conclusions about a variety of topics. Nevertheless, both reviews conclude that the behavioral approach has been demonstrated to be effective and that it seems a viable treatment alternative for distressed couples. Once it has been shown that a treatment is effective, the therapeutic components responsible for positive outcomes should be identified (Jacobson, in press; Jacobson & Martin, 1976). Up until this time, virtually all outcome studies used training packages which contained a variety of treatment components. For example, Liberman, Levine, Wheeler, Sanders and Wallace (1976) compared couples who received group "interactional counselling" and those who received, also in groups, a behavioral intervention package which provided training in pinpointing specific behaviors, contingency contracting and communication. A number of techniques were used to teach these skills, including: rehearsal, modelling, direct instructions, verbal feedback and homework. Jacobson (1977) compared couples in a waiting list control group to those who were administered a behavioral treatment which consisted of problem solving training and contingency contracting; again, these skills were taught through modelling, verbal feedback, video playback and rehearsal. In these, as in other therapy outcome studies (e.g., Jacobson, in press; Patterson et al., 1975), the treatment packages consisted of a variety of components. Questions such as what do couples need to learn, what are the techniques best suited to teach the necessary skills, and perhaps more important, what are the psychological and social processes which underlie change, have received relatively little attention. The absence of this information is lamented by a number of workers in the field (Jacobson & Martin, 1976; Mayadas

& Duehn, 1977). It has been suggested that studies be carried out on "analogue" populations in order to isolate the skills and techniques that contribute to successful therapy (Bandura, in press; Eisler, Hersen & Agras, 1973; Patterson et al., 1975; Wright & Fichten, 1976). Jacobson (in press) suggests that communication skills training may be the most effective component in behavioral treatment packages and recommends that further attention be focused on the systematic evaluation of the importance of these skills.

If studies of this kind are to be carried out, effective techniques for generating conflict in the laboratory and valid and reliable instruments to assess communication skills must be used. Because asking spouses to discuss their own marital problems is not always feasible or desirable, a variety of techniques have been developed to create conflictual interaction (e.g., Goodrich & Boomer, 1963; Olson & Ryder, 1970; Olson & Straus, 1972; Raush, Barry, Hertel & Swain, 1974; Strodtbeck, 1951). Some studies have shown that spouses' behaviors are relatively consistent across a variety of laboratory tasks (Jacob & Davis, 1973). Other investigators have found differences between happy and distressed couples only when the topics used to generate disagreement were related to the couple's own concerns and problems (Gottman et al., 1976; Birchler & Webb, Note 3). Olson and Ryder's (1970) Inventory of Marital Conflicts (IMC), which requires spouses to resolve the marital problems of hypothetical couples, appears to be the most promising technique for the generation of conflict in the laboratory. Although Birchler and Webb (Note 3) found that the interaction generated by the IMC is not wholly representative of couples' behaviors during discussions of their own problems, other studies have shown that the behaviors of happy and distressed couples can be distinguished when spouses discuss the IMC topics (Birchler et al., 1975; Vincent et al., 1975).

A number of behavioral coding systems have been developed to evaluate interaction between spouses [e.g., Olson & Ryder's (1970) IMCCS; Thomas, Walter & O'Flaherty's (1974) Verbal Problem Checklist]. The Oregon group's Marital Interaction Coding System (MICS) (Hops, Wills, Patterson & Weiss, Note 4), which breaks communication into productive (e.g., positive solution, compromise solution) and counterproductive (e.g., denial of responsibility, excuses) components, has been used most frequently and has been validated most extensively. For example, Weiss, Hops, and Patterson (1973) reported that couples successfully treated in a behavioral training program increased their use of positive and decreased their use of aversive problem solving behaviors, and that MICS score changes correlated with changes on self-report and various behavioral measures. Couples in the Patterson et al. (1975) and in the two Jacobson (1977, in press) studies improved following treatment both on self-report measures and on MICS scores.

Studies by Birchler et al. (1975) and Vincent et al. (1975) provide evidence for the discriminative validity of the MICS coding system. Their examination of normal and distressed relationships indicates that troubled couples tend to use aversive control more frequently and positive control less frequently than happy couples, both in the laboratory and in the home. For example, distressed spouses were shown to complain, criticize and interrupt more frequently and to offer fewer positive and compromise solutions in the laboratory, and to engage in more "displeasing" and fewer "pleasing" behaviors at home. Thus, the MICS appears to be sensitive to changes brought about by therapy and to differences between happy and distressed couples. In addition, MICS scores seem to be related to the behaviors of spouses in non-laboratory situations.

Having found a paradigm for generating conflict and a valid coding system, Birchler et al. (1975) and Vincent et al.(1975) proceeded to examine the communication behaviors of couples. The data of these investigators indicate that while individuals from happy and distressed relationships were not distinguishable during interaction with strangers of the opposite sex, spouses from distressed relationships used more negative and fewer positive problem solving behaviors with their own partner than did spouses from happy marriages. Vincent et al. concluded that problem solving skills are not a trait-like attribute of the individual, and that, "Distressed couples are capable of more facilitative problem solving, which suggests that aversive control tactics arise from a breakdown in stimulus control rather than from a behavioral deficit" (p. 485). If spouses from distressed relationships have the positive control tactics available in their repertoire, but are not using them when interacting with each other, then guidance as to when and how to apply positive control may be sufficient to change a couples' style of communication. Relatively brief interventions, such as instructional verbal feedback and videotape playback of conflictual interaction, may therefore be sufficient to teach distressed couples to use positive control appropriately.

Videotape playback permits spouses to observe their own behavior and its consequences and may thus prompt more productive behavior. Lasting changes would be expected when maladaptive cognitive "sets", maintained partly by distorted perceptions and cross-blaming, also are altered. Although videotape playback in couple therapy has not been studied independently of other treatment components, several lines of research suggest that this technique could be effective in altering maladaptive behaviors as well as perceptions and attributions. Videotape playback has been shown to enhance the effectiveness

of other treatment components used in marital therapy (e.g., Mayadas & Duehn, 1977). However, as videotape playback may also have deleterious consequences (Alkire & Brunse, 1974; Fuller & Manning, 1973), its independent contribution to therapeutic change needs further evaluation.

Videotape and Instructional Verbal Feedback

Case study reports are almost unanimously optimistic about the benefits of video playback; claimed beneficial effects are usually attributed to enhanced "self-awareness" (Marks, Montgomery & Davis, 1975) or to "self-confrontation" (Fuller & Manning, 1973). Videotape has been used in a variety of settings to increase patients' knowledge of their own behavfor, and this apparently leads to therapeutic gain (Bailey & Sowder, 1970; Hartson & Kunce, 1973; Holzman, 1969, Moore, Chernell & West, 1965; Parades, Gottheil, Tausig & Cornellson, 1969; Kagan, Note 5). For example, Reivich and Geertsma (1968) found that after videotape self observation, the self ratings of a patient came to agree more with those of observers; Boyd and Sisney (1967) indicated that videotape altered a patient's distorted self image; and Ivey (1973) credited video playback with changing the social skills of a patient. Although the reports have been, for the most part, favorable, some investigators have found that self perception may change in either a positive or negative direction (Danet, 1968) and that videotape playback may produce deterioration in some patients (Alkire & Brunse, 1974). Recent reviews (Fuller & Manning, 1973; Marks et al., 1975), although optimistic about beneficial effects, point to the lack of experimental rigor in studies of videotape effects and caution prospective users about possible negative consequences. The authors of both reviews recommend that research be carried out to investigate the person and situation variables (Bergin, 1971; Kiesler, 1966) which bring about changes produced by videotape viewing.

Social skills training. In the burgeoning field of social skills training, numerous well-controlled studies indicate that video playback and instructional verbal feedback, when combined with other treatment components such as modelling and rehearsal, cause improvement in social behavior. This has been shown to be true in a variety of populations (see Hersen & Bellack, 1976, 1977; Hersen & Eisler, 1976; Wright, 1976 for reviews). The most prolific component analysis researchers are the Mississippi (Bellack, Eisler, Hersen, Miller and their colleagues) and Wisconsin (McFall and his colleagues) groups. Studies by these investigators (e.g., Eisler, Hersen & Miller, 1974; McFall & Twentyman, 1973) and by others (Goldstein, 1973; Melnick, 1973) have documented the independent effects of components such as modelling and rehearsal in studies of assertion and heterosexual dating skills. Both instructional verbal feedback and videotape playback have been cited as powerful ingredients in many social skills training programs because these techniques allow the therapist to point out concrete instances of dysfunctional behavior and because video playback allows couples to monitor their behavior (Serber, 1972).

However, videotape playback and instructional verbal feedback have rarely been evaluated independently of each other or of other therapy components. Although a number of studies have demonstrated the benefits of instructions, either with or without feedback (Eisler, Hersen & Miller, 1974; Hersen, Eisler, Miller, Johnson & Pinkston, 1973; McFall & Twentyman, 1973), some investigators have found that verbal feedback may not enhance the effectiveness of other treatment components, such as repeated practice (Christensen, Arkowitz & Anderson, 1975). Videotape playback, when combined with other treatment ingredients, appears to have an additive effect. For example, in an attempt to improve subjects' dating skills, Melnick (1973) found that a combination of

participant modelling and video playback was superior to participant modelling alone; this study replicates Frankel's (1971) results on training counsellor skills. Arnkoff and Stewart (1975) report that video playback combined with direct instructions was superior to modelling alone in increasing the quality of information gathered during problem solving, and Bailey, Deardorff and Nay (1977), in an analogue study on training therapist skills, found modelling to be superior to a combination of video playback and role play. Frankel (1971) and Bailey et al. (1977) examined the independent contribution of video playback; both investigators reported that this technique is inconsistent and erratic in its effects. Rich and Schroeder (1976), in their review of the assertion training literature, concluded that although "audio or video playback, therapist coaching or group reinforcement, or mere personal reflection on one's own performance have all been employed in studies, ...no research has examined the relative value of these forms of feedback for assertiveness training, nor is there empirical data about possible additive effects" (p. 1087).

Marital therapy. The findings on video playback and instructional verbal feedback effects in the marital therapy literature are similar to those in the social skills training studies. Case study reports (Alger & Hogan, 1969, 1970; Kagan, Krathwohl & Miller, 1963) have indicated that marriage partners are more willing to assume the blame for a poor relationship after seeing themselves on videotape. Indeed, Alger and Hogan credited videotape playback for the interruption of blame patterns in couples. However, videotape playback was confounded with several other treatment variables in these case studies.

Higgins, Ivey and Uhlemann (1970), in a controlled study, tried to change "mutual communication" in couples. They compared a group that received filmed and live models, a programmed text on effective communication, guided discussion,

rehearsal and videotape playback to a group which received only the text, filmed models and rehearsal. Dependent measures consisted of ratings made by couples and by trained observers of the "effectiveness of the relationship". Although the group receiving videotape playback was superior on observers' ratings of "openness of communication", no conclusion can be reached about the independent effects of videotape playback since this technique was utilized in conjunction with verbal feedback and guided discussion. Furthermore, these results cannot automatically be generalized to a consideration of distressed married couples, as Higgins et al.'s sample consisted of pairs of "married couples, roommates, engaged and pinned couples and friends". Alkire and Brunse (1974) conducted a study of confrontative group therapy in which video playback was administered to couples in which the husbands were psychiatric patients. They found that the deterioration rate of subjects shown videotapes of interactions between themselves and their spouse was greater than that of subjects who participated in a similar group, but who were not shown any videotapes. This study may be criticized on a variety of methodological grounds (e.g., confounding video playback with "feedback" given by other group members while the therapist was silent). Because of the design of this study, the reasons for the negative outcomes can not be clearly established; it is possible that "feedback" from other group members may have been responsible for deterioration. Receiving such feedback may be a threatening experience for spouses and thus may increase defensiveness; or, it may be that feedback from other participants sufficiently increases acceptance of responsibility for conflict to generate high arousal and guilt. Nonetheless, the results suggest that caution should be exercised when videotape playback is used.

A well-controlled marital therapy outcome study of behavioral training in communication skills was conducted by Mayadas and Duehn (1977). Couples were seen for eight sessions. Dependent variables included changes in spouses' observed negative behaviors. A combination of video playback and modelling was found to be more effective than modelling alone. In this study, as in others which have used behaviorally oriented treatment packages, video playback was confounded with another treatment technique, in this case modelling. Therefore, no conclusions can be drawn about the independent effects of video playback. However, as their program did not confound training in communication with training in other skills, the results of Mayadas and Duehn do show that video playback enhanced the effects of modelling. Eisler et al. (1973) carried out an analogue study which did not confound videotape with other variables. In a sample of 12 couples, these investigators compared a) videotape playback alone, b) irrelevant television, c) videotape plus focused instructions and d) focused instructions alone. The dependent measures were changes in the frequency of "looking"and smiling from the baseline phases of the ABAB design. Subjects in the focused instructions conditions were told to "Pay attention to how much you are looking at each other." Although videotape playback had a slight effect, instructions were more useful in increasing "looking". A combination of videotape playback and instructions was not superior to instructions alone in increasing "looking", but resulted in an increase in smiling. As the authors cautioned, in their study the dependent variables were simple non-verbal behaviors, the intervention lasted only 24 minutes, and couples were not actively seeking to change their marriage. Videotape playback alone may be valuable in the modification of more complex target behaviors such as compromising and accepting responsibility or blame; this possibility has yet to receive empirical

evaluation. There is some evidence, however, that instructional verbal feedback can alter complex communication skills. Carter and Thomas (1973) studied communication in nine couples and reported on two "single couple experiments". They found that instructional feedback, when presented in a written "Statement to Clients", had a favorable effect on couples' communication behaviors.

Studies such as those reviewed above provide the bulk of the evidence on the efficacy of videotape and instructional verbal feedback. The generalizability of findings from these studies to a consideration of the therapeutic utility of these techniques in marital therapy is questionable. Most of this research did not deal with married couples. Distressed spouses, in particular, have rarely been studied. A number of methodological criticisms can be levied against the few studies which have used videotape playback alone (Bailey & Sowder, 1970; Eisler et al., 1973; Fuller & Manning, 1973). Furthermore, in well-controlled studies of the independent effects of videotape and instructional verbal feedback on communication, molecular dimensions have been studied (Eisler et al., 1973), while more complex targets, such as interpersonal problem solving, have not been examined. Some investigators have used designs which confound videotape effects by pursuing several therapeutic goals simultaneously (Higgins et al., 1970; Jacobson, 1977, in press; Crowley & Ivey, Note 6), while others have confounded the independent effects of video playback and of instructional verbal feedback when teaching a specific set of skills (Mayadas & Duehn, 1977). Discussions about the therapeutic effects of videotape playback (Eisler & Hersen, 1973) and instructional feedback (Thomas, 1977) have been speculative, relying more on logic than on evidence. Furthermore, as Bailey and Sowder (1970) indicated in their comprehensive review, the underlying rationale regarding exactly what is being changed by videotape playback or why

such changes should occur is usually nebulous or non-existent. As Thomas (1977) cogently put it, the problem with video or with therapist provided feedback is, "that while it generally informs the recipient and sometimes changes his behavior favorably, its behavioral function is uncertain" (p. 95). Nevertheless, both these techniques are used frequently in therapy. Because their effects are variable, at times even detrimental, and as their use is costly, the independent and additive effects of video playback and of instructional verbal feedback in teaching communication skills to troubled couples needs to be systematically evaluated.

Underlying processess. There are many reasons for believing that videotape playback to distressed couples might lead to a variety of behavioral and cognitive changes. By allowing couples to view their interaction, videotape may increase the benefits of self monitoring, a technique which requires clients to systematically note various aspects of their own behavior. Although still considered controversial when it is the sole therapeutic intervention (Lipinski & Nelson, 1974), self monitoring has been shown to have beneficial effects on several types of target problems (Johnson & White, 1971; Kazdin, 1975; Thoresen & Mahoney, 1974). It has been hypothesized that self monitoring may produce change by enabling clients to gather data on their own behavior by focusing attention on themselves; clients are thereby exposed to information that was not previously available. Presenting distressed couples with videotape playback of their own interaction might be facilitative for similar reasons.

Another possible mechanism mediating videotape induced behavior changes may be primarily cognitive in nature, since there may be interactions between changes in behavior and changes in self perceptions and in attributions about the causes of behavior (Mahoney, 1977). An attribution theory explanation of video playback

and self monitoring effects may be particularly relevant for marital therapy; distressed couples not only use poor communication skills but also have distorted perceptions of themselves and their partner and often blame each other for problems. The theoretical rationale, based on attribution theory, proposed by Storms (1973) is both parsimonious and compelling; it is discussed below.

Interpersonal Perception and Attribution

Attribution theory is concerned with how people come to understand the causes and implications of events around them. Heider's (1958) original work has been substantially extended by Jones and Davis (1965), Jones and Nisbett (1972), Kelley (1973) and Weiner (1974). These theorists have been concerned with two related aspects of the task of a perceiver: how people identify the cause of a particular effect and how they make inferences concerning the attributes of persons and of situations in bringing about this effect. In spite of some conceptual difficulties (Kruglanski, 1975), investigations have generally focused on the study of the internal-external (or dispositional-situational) dichotomy. In doing so, researchers have studied how people make attributions to internal dispositions of persons (e.g., traits, abilities, motives, intentions) and to external situational aspects (e.g., task difficulty, luck, incentives, peer pressure) (Ross, 1977). The study of how people infer causation for their own and for others' behaviors and how causal attributions may be modified is highly relevant for an understanding of marital distress. In order to achieve therapeutic gains, the cross-blaming patterns of spouses must be altered. Behaviorally oriented marital therapists generally focus on improving couples' skills and expect cognitive changes to follow. Since cognitive changes do not always accompany behavioral ones (Hersen & Bellack, 1977; Thoresen & Mahoney, 1974), it may be preferable to alter blaming patterns

directly by modifying the faulty cognitions. As Jones and Nisbett's (1972) reasoning is most relevant to this issue, it will be considered in detail.

Jones and Nisbett (1972) proposed that, while trying to make sense of events, actors and observers are likely to attribute causality for behavior differently. These authors hypothesized that actors would tend to attribute their own behavior to situational requirements, but that observers of these same actions would refer to stable internal dispositions of the actor. Such actor-observer biases are expected to occur for two reasons: a) actors and observers process information differently because of their visual perspective, and b) different information is available to each. Since they must be ready to respond to changing environmental conditions, actors are likely to focus on situational cues, including the behavior of others. Therefore, actors are more likely than observers to attribute their own behavior to situational requirements. The focus of an observer's attention, on the other hand, is likely to be the actor rather than the situation. Observers are, therefore, more likely than actors to infer dispositional causation for the actor's behavior. It is assumed that the focus of one's attention is likely to be viewed as causing actions or events. Differences in attributional biases also are expected because of the self/other discrepancy described by Bem (1972), since the information available to actors and observers differs. Actors' knowledge of their own behavior in other situations should make them aware of "covariation" between their behavior and situational variables, thus allowing them to "discount" dispositional causes (Kelley, 1973). Observers may assume that the behaviors they witness are typical of the actor. Actors, on the other hand, know more about the variability of their own past behavior and are therefore less likely to see their actions in dispositional terms.

If the Jones and Nisbett hypothesis is true, it has interesting implications for behavioral marital therapy. Because spouses are simultaneously actors and observers of their partner's behaviors, they should differ not only in how they view the same behaviors but also in their causal attributions about who is responsible for conflict and why disputes occur. Spouses would be expected to attribute their partner's behavior, both good and bad, to his or her stable dispositions, and their own to situational demands. Should this be the case, because of differences in visual perspective and available information, partners from a distressed relationship should be more likely to attribute conflict and problems to their spouse's personality than to their own. Several lines of research suggest that the inferences made by distressed spouses about the causes of their own and their partner's behaviors may be affected by actor-observer attributional biases as well as by self-serving motivational distortions. The findings of a number of studies, reviewed below, also indicate that such attributional biases may be modified by visual reorientation through videotape playback.

Self/other differences. Until very recently, investigations have concentrated only on the self/other component of the Jones and Nisbett hypothesis. The available data provide strong support for this aspect of their proposition. For example, Lay, Ziegler, Hershfield and Miller (1974) found that subjects make more situational attributions about the causes of their own actions, while the friends and acquaintances of the subjects make more dispositional attributions about the subject's behavior. Similarly, Nisbett, Caputo, Legant and Marecek's (1973) data indicate that subjects are more likely to describe their own behavior in situational terms and to describe the actions of their friends in dispositional terms. They also found that subjects tend to attribute more personality traits to others than to themselves.

Self-serving biases. Initially viewed as troublesome "noise" (Jones, 1976; Kelley, 1973), attributional errors have recently become one of the most researched topics in the attribution literature. Whether such errors are due primarily to cognitive biases or to self-serving motivational ones through which subjects maintain or enhance their self-esteem is an issue of great theoretical interest (Ajzen & Fishbein, 1975; Bradley, 1978; D. Miller & Ross, 1975). Nonetheless, the existence of these errors is now well established (Monson & Snyder, 1977; Ross, 1977). There is ample evidence in the literature on achievement motivation that actors make different attributions when asked to infer the causes of their own positive and negative behaviors (Weiner, 1974). Actors tend to attribute their positive behaviors internally (e.g., own disposition, traits, abilities, effort) and their failures externally (e.g., task difficulty, luck). Observers, moreover, have been found to make dispositional attributions for actors' negative behaviors and situational attributions for actors' positive acts (Stephan, 1975). Actors and observers also differ in the extent to which they believe the actor to be personally responsible for the behavior of another; actors feel more responsible when that behavior is positive, whereas observers attribute greater responsibility to actors when the consequences are negative (Beckman, 1970). Empirical evidence generally indicates that actors take more credit than observers give them for positive behaviors (e.g., Streufert & Streufert, 1969), and accept less responsibility than observers attribute to them for negative acts (e.g., Harvey, Harris & Barnes, 1975). An interesting qualification to these conclusions is suggested by the data of D. Regan, Straus and Fazio (1974). These investigators found that when observers rated individuals whom they liked, they made dispositional attributions for good behaviors and situational attributions for negative acts. When these same observers rated disliked persons, the reverse was true.

The findings of such studies indicate that factors such as the desire to maintain self-esteem, to present oneself in a favorable light, or to denigrate or exonerate others, may sharply affect causal attributions. The Jones and Nisbett proposition has not yet been extended to incorporate these findings. Although the self/other aspect of their hypothesis has been supported by the results of a variety of studies with differing methodologies (Jones, 1976), there is a danger that such findings reflect only the causal attribution processes of students making inferences about unknown or hypothetical others in arbitrary and inconsequential situations (Taylor, 1975). When subjects have an "axe to grind", they seem to attribute causation in a self-serving manner. Indeed, a number of studies have identified conditions in which actors make more dispositional attributions than do observers [see Monson & Snyder (1977) and Ross (1977) for reviews]. Because motivational considerations are assumed to be important in unhappy marriages (Stierlin, 1974), distressed spouses' attributions about the causes of their own and their partner's positive and negative behaviors are likely to reflect not only actor-observer errors but also self-serving biases. This possibility has yet to receive empirical evaluation.

Other types of systematic attribution errors also may exist. Jones and Davis (1965) proposed that behaviors of low social desirability, performed in spite of inhibitory external causes, are more likely to be attributed to internal dispositions than are behaviors of high social desirability, since the former imply actions contrary to social norms. In agreement with this formulation, J. Mann and Taylor (1974) found that observers tend to make internal attributions for non-normative behaviors. Jones and Davis (1965) also suggested that behaviors directed toward or having personal consequences for observers

are more likely to be attributed to dispositions of the actor than are behaviors which do not personally affect the observer. This notion also has received some support from studies using the prisoners' dilemma game (Miller & Norman, 1975).

A number of predictions about distressed spouses' attributions concerning their own and their partner's acts may now be made on the basis of the theoretical formulations and empirical evidence reviewed above. These predictions are based on a) findings which support the existence of actor-observer and self-serving biases, b) differential attributions as a function of the social desirability of the behaviors and of the relevance of actions for the observer, and c) findings such as those of D. Regan et al.(1974), which show that evaluations of an actor which correspond with those of his behavior produce internal attributions, while inconsistent evaluations produce external attributions. In general, spouses would be expected to attribute conflict to their partner and to make more situational attributions for their own behaviors than for those of their spouse. However, distressed spouses should also a) make dispositional attributions for their own positive behaviors and for their partner's negative acts and b) be more likely to attribute their own negative behaviors to their partner and to situational variables than to attribute their spouse's negative acts to themselves or to the environment.

Visual perspective differences. The visual perspective aspect of the Jones and Nisbett (1972) proposition has received more limited attention than the self/other component. Although manipulation of one's focus of attention through alteration of visual perspective is possible using videotape playback, relatively few studies have employed this technique in the study of causal attributions. Indeed, in most attribution research the observers do not interact with or even

view the actors. Nevertheless, some studies have provided partial support for the visual perspective aspect of the Jones and Nisbett proposition. For example, Storms (1973), in an ingenious test of the importance of one's focus of attention, found that reversing the visual perspectives of actors and observers through the use of videotape caused marked changes in actor-observer biases; his data indicate that self viewing actors make relatively more dispositional attributions about their own behavior than do observers. Storms argues that the therapeutic benefits of videotape playback may be due to changes in the causal attributions made by clients after they have seen themselves from the visual perspective of an observer. With respect to marital therapy, Storms believes that a spouse who sees himself or herself on videotape becomes aware of his or her own behavioral contributions to the marital conflict and, as a result, may be more willing to accept dispositional blame.

Additional support for the visual perspective aspect of the Jones and Nisbett (1972) proposition is provided by the findings of T. Regan and Totten (1975). These investigators, in an observer only design, manipulated empathy versus observer set; the subjects viewed a videotape of two persons engaged in a 5 minute "get-acquainted" conversation, and were instructed either to empathize with or to simply observe one of the two actors. The data, which the authors interpret as support for the visual perspective hypothesis, indicate that subjects instructed to empathize with an actor made relatively more situational and less dispositional attributions about the causes of the actor's behavior than did those given an observer set. Arkin and Duval (1975) worked with an extension of Duval and Wicklund's (1972) "objective self-awareness" theory; they found that when attention was focused on actors by directing a camera at them, actors made relatively less situational attributions than did

observers. This pattern was a reversal of attributions made by actors and observers in the absence of such "peripheral focusing". Pryor and Kriss (1977) and Wegner and Finstuen (1977) also found that subjects make more internal attributions for an actor's behavior when attention is focused on him.

Taylor and Fiske (1975) used a design in which observers were allowed to view only one of two participants in interaction. Although no differences were found in the dispositional and situational attributions made by these observers, there were large differences in attributions of control as a function of the person viewed. The data indicate that attending to a particular individual while he is engaged in social interaction increases that person's salience as the controlling agent in the situation. Thus, the Taylor and Fiske results are still in agreement with the Jones and Nisbett (1972) prediction that it is the perceived individual, and not the situation, which is seen as causal. Biggs (Note 7) conducted two studies on the effects of video self-viewing. In one study, using an actor only design, Biggs did not find the changes reported by Storms (1973). The results of the second study, in which the actor not only viewed a videotape of herself but was also an observer of another person, indicate that subjects become more dispositional after viewing themselves, but only when they make attributions about their positive characteristics. These findings lend only limited support to the visual perspective aspect of the Jones and Nisbett proposition, and suggest that self-serving biases may affect attributional changes brought about by altering an individual's focus of attention.

Miller and Norman (1975) used the "prisoners' dilemma" game to generate conflict in the laboratory and obtained causal attribution ratings from the participants in the game as well as from passive observers. The results of their study do not support the self/other aspect of the Jones and Nisbett

proposition. However, Miller and Norman found that participant observers are more likely to attribute personal responsibility to an actor and are less likely to see the situational constraints than are passive observers. These findings suggest that observer biases may be expecially strong when the observer is an active participant in a conflict.

As is evident from the review above, it is difficult to specify exactly what kinds of attributions are affected by visual perspective. It is clear, however, that focusing attention on an individual does affect the way in which inferences are made about the causes of his or her behavior. Observers generally tend to attribute more dispositional causation, personal responsibility, and control over interaction to the person whom they are viewing than the actors themselves are willing to assume. When actors are turned into observers of their own behavior by focusing attention on themselves or by visual reorientation through videotape, some of their attributions come to resemble those made by observers.

Perceptions. Attributions are inferences about the causes of acts and events which persons have perceived. Therefore, the role of the perceptions upon which attributions are based should be considered before discussing the relevance of the above findings for marital therapy. That an individual's perceptions of behavior are affected by cognitive and motivational biases has been well documented (e.g., Hastorf & Cantril, 1954; Hastorf, Schneider & Polefka, 1970). However, the relationship between distorted perceptions and attributions has been infrequently studied. During the past decade, social psychologists have ignored the study of interpersonal perception, directing their attention, instead, to the study of attributions. This change in emphasis occurred for a variety of reasons, including severe methodological difficulties

in the study of person perception (Cronbach, 1955; Triandis, 1977) and the lure of an exciting theory. In the study of attributional distortions, the influence of perceptual biases and errors has typically been ignored. Newtson's (1976) review suggests that the current findings of attributional bias may, in fact, be reflections of distortion in the perceptual input process itself. J. Mann's (1976) study provides support for this view; his data indicate that perceptual distortions affect the causal attributions of observers. Subjects in Mann's study a) "perceived" non-existent behaviors which were consistent with ethnic stereotypes and b) made more internal attributions for these "perceived" actions than for behaviors inconsistent with ethnic stereotypes which actors did, in fact, emit. Such findings indicate that perceptual biases can affect the process of causal attribution. Researchers may need to examine what is perceived before assessing how subjects infer causation for what they have seen.

Spouses are likely to differ systematically in the ways in which they perceive their own and their partner's behaviors and in the attributions which each makes about the causes of these behaviors. The variables associated with accuracy, such as liking, similarity and familiarity (Triandis, 1977), are relevant to the perception of one's spouse during interaction, and should make spouses' perceptions of each other more accurate. However, when two people are involved in an intimate relationship, the observer's judgment can become highly distorted (Argyle, 1969; Orvis, Kelley & Butler, 1976). When spouses are involved in conflictual interaction, because both are emitters and observers of behavior, they are likely to have distorted perceptions of their own and their spouse's behaviors. Such perceptual distortions are especially likely in distressed couples (Olson, 1972).

Modification of Spouses' Perceptions, Attributions and Behaviors Through Videotape Viewing

Results of studies in which the focus of subjects' attention is altered suggest that video playback of conflictual interaction, especially from the spouse's visual perspective, may prove to be beneficial in therapy with couples. Such self viewing may alter both the perceptual and cross-blaming biases of distressed couples, since spouses would be focusing attention on themselves and would be exposed to new information through self monitoring. Although the use of videotape playback in the modification of the perceptual and attributional biases of distressed spouses has not been systematically studied, it would seem that such evaluation could have interesting implications for marital therapy.

Studies show that focusing attention on an actor causes the actor to modify his or her attributions so that these become similar to causal inferences made by observers. These findings can not automatically be generalized to a consideration of the causal attributions made by distressed spouses who are engaged in conflictual interaction. The generalizability of these results is limited for the following reasons. Only two of these studies (Storms, 1973; Biggs, Note 7) actually reversed an actor's visual perspective; the findings of these two investigators are not wholly consistent. In experiments in which subjects were engaged in interaction, the sequence of events and the outcomes were highly structured, leaving actors little influence over the situation. Only Miller and Norman (1975) and Storms (1973) examined the attributions of active observers who interacted with actors; in both of these studies the interaction was with a stranger. In addition, Storms did not analyze his data separately for active and passive observers, Miller and Norman used a highly artificial interaction situation (the prisoner's dilemma game) and the actors and observers in their

study never directly viewed or even heard each other. Furthermore, Storms' study did not use a conflict situation, even though there is evidence that conflict can make actors underestimate the influence of external causation and overestimate the causal role of the opponent (Miller & Norman, 1975). Conflictual interaction between spouses from a distressed relationship probably constitutes a special case of communication, interpersonal perception and attribution because such spouses a) are likely to use many coercive tactics when interacting with each other (Vincent et al., 1975), b) are active observers of their partner's actions, c) have extensive information about their own and their spouse's behaviors in similar circumstances and because d) the situation is one of conflict, and e) motivational variables are probably very influential.

Nevertheless, videotape playback of conflictual interaction between spouses, especially from the visual perspective of the spouse, might prove valuable in marital therapy. This should be true not only because of the opportunity videotape provides for the therapist to point out instances of faulty communication and for clients to monitor their progress, but also because the change in visual perspective may allow a spouse to view himself or herself, both literally and figuratively, as does the partner. Videotape self-viewing may reduce perceptual biases and, therefore, allow spouses to see their own behavioral contributions to the conflict which they are experiencing. Observers are likely to make more dispositional attributions about the causes of an actor's behavior than are actors themselves; focusing attention on actors generally alters their attributions so that these become similar to attributions made by observers. Therefore, self observation through videotape playback may alter both perceptual and attributional biases; spouses may become more dispositional when attributing causation for their own behavior and more situational

when inferring the causes of their partner's actions. Altering their causal attributions may make spouses more likely to accept their share of the blame for conflict and might make them more amenable to therapy which requires that both partners make changes in their behavior. Shouldering more of the blame for conflict also may make spouses see each other in a more favorable light, thus reducing some of the strain in their relationship.

The present study attempts to explore these possibilities by examining communication behaviors, perceptions and attributions about one's own and one's spouse's behaviors before and after video playback of conflictual interaction. Because the dependent variables include both behavioral and self-report measures, the causal sequence of cognitive and behavioral changes during therapy can also be assessed. Knowing the extent to which changes in one domain mediate changes in the other is important for behavioral marital therapy since clients rarely present problems in solely behavioral or solely cognitive terms. Marital distress may be caused and maintained by skill deficits, by faulty cognitive appraisals, or by both of these factors. The goal of marital therapy is to produce lasting and generalized changes in both behaviors and satisfaction. The effects of behavioral training do not always transfer to the client's own environment; when this does occur, changes are often not maintained (Hersen & Bellack, 1976; Kazdin & Bootzin, 1972). Induced changes in cognitions would not be expected to last when behavioral deficits also exist. Behavioral changes may not endure when the new behaviors are inconsistent with clients' cognitions. Indeed, one of the conclusions of Hersen and Bellack (1977), in their review of the social skills training literature, is that although such training has been shown to be effective in altering behaviors, changes in self perception do not generally covary with behavioral improvements.

That attributions about the causes of both one's own acts and those of others are related to behavioral and affective consequences has been well documented (Brehm & Cole, 1966; Hastorf et al., 1970; Kelley, 1973; Riemer, 1975; Shaver, 1975; Simard, Taylor & Giles, 1976; Weiner & Sierad, 1975). Bem (1972), who has written extensively on this subject, reviewed a number of studies which showed that manipulations designed to alter attributions tend to exert a much stronger effect on behaviors than on the attributions which supposedly mediate these; he concluded that behavioral changes result in altered attributions and not vice versa. Although the evidence Bem cites indicates that in some situations this may indeed be the case, there is ample evidence to show that the opposite can also be true, that is, changes in attributions can occur before behavioral changes and even in the absence of such changes (e.g., Riemer, 1975). A study in which the behavioral and cognitive effects of videotape self observation are examined may help to clarify the conceptual issue of whether such self-viewing a) results in behavior change, which in turn mediates changes in attributions and perceptions, b) whether the reverse is true, or c) whether behavioral and cognitive changes occur independently of one another.

As is evident from the above summary of the literature, many questions remain unanswered. Nevertheless, empirical support for the theoretical rationale proposed by Jones and Nisbett (1972), combined with conclusions which may be drawn from the social skills training literature and from videotape studies, do strongly suggest that videotape self observation of conflictual interaction should result in beneficial behavioral and cognitive changes in distressed couples. In the modification of communication between spouses, instructional verbal feedback and video playback could be expected to have both

separate and additive effects. The present study was designed to assess the effects of videotape playback of conflictual interaction on spouses' communication skills, perceptions and attributions about the causes of their own and their spouse's positive and negative behaviors, and to elucidate the mechanisms by which changes may occur. Distressed couples, having engaged in conflictual discussion, received either a no video placebo treatment, or video playback from their own, their spouse's or an observer's visual perspective. All subjects completed perception and attribution questionnaires before and after the video playback intervention. Half of the subjects in each condition also received oral and written instructional feedback. In order to permit the assessment of the separate and additive effects of the two treatment techniques, all couples engaged in a second conflictual discussion. The following hypotheses were tested.

Hypothesis 1 (Communication Behaviors)

a) Subjects who receive instructional verbal feedback will improve their communication behavior more than those who do not receive such feedback.

b) Self-viewing subjects will improve their communication behaviors more than those who view only their spouse.

c) Spouses who view themselves as a couple will improve their communication behaviors more than those in the no video placebo condition.

d) The effects of video playback and instructional verbal feedback will be additive.

Hypothesis 2 (Perceptions)

a) Subjects will perceive their spouse's behaviors more negatively than their own.

b) Video playback from any visual perspective will reduce this discrepancy.

c) The greatest reduction in discrepancy between self and spouse perceptions will occur in the self-viewing condition, and the discrepancy will be smaller for spouses who view themselves as a couple than for subjects who view only their spouse.

Hypothesis 3 (Attributions)

a) Subjects will use more socially desirable traits to describe their own positive characteristics than to describe those of their partner. Spouses will also use more undesirable traits when describing their partner's negative characteristics than when describing their own.

b) In general, subjects will make relatively more internal attributions concerning the causes of their spouse's behaviors and more external attributions concerning the causes of their own actions. However, these actor-observer attributional biases will be affected by the valence of the behaviors; subjects will make relatively more internal (dispositional) attributions for their spouse's negative and their own positive behaviors and they will make more external (situational) attributions for their spouse's positive and their own negative actions.

c) Self-viewing subjects will make more dispositional and less situational attributions about their own behavior, and less dispositional and more situational attributions concerning the causes of their spouse's actions when compared to subjects in the other three video conditions. The reverse will be true for subjects in the spouse-viewing condition.

d) All subjects who view only one of the participants will attribute more control over the tone of the interaction to that person.

e) In an indirect test of attributions, as used by Sicoly and Ross (1977), subjects will judge feedback concerning their own facilitative and their spouse's disruptive behaviors to be more accurate than feedback about their own disruptive and their spouse's facilitative behaviors. This tendency will be least evident in self-viewing subjects.

Method

Overview

Forty-eight couples scoring average to very distressed on both the Locke-Wallace Marital Adjustment Scale and the Primary Communication Inventory were each seen for one 3 1/2 hour laboratory session. During the orientation phase of the study, couples were briefly interviewed, shown a videotape of themselves in conversation with the experimenter, and administered the Self and Spouse Rating Scales as well as the Description of Problem Areas sheet.

Once these tasks had been completed, couples were instructed to discuss and attempt to resolve one of the problems which they had previously identified as troublesome in their relationship. These discussions, which lasted 10 minutes, were videotaped, and behavioral ratings of the interaction were made by two trained observers. Subjects rated their own and their spouse's behaviors by completing the Self and Spouse Ratings of Discussion questionnaires. This was followed by the administration of the videotape playback intervention; there were four video conditions. In the No Video Placebo condition, subjects spent 10 minutes reflecting on the previous discussion and writing down their impressions of their own and their spouse's behaviors. Subjects in the three other video conditions saw and heard a videotape of the discussion. All heard both sides of the conversation. However, each spouse in the Video Self condition saw a visual image of himself or herself only, in the Video Spouse condition, subjects saw their spouse only, while those in the Video Both condition saw the couple together. While subjects again completed the Self and Spouse Ratings of Discussion questionnaires, written instructional feedback, based on the observers' ratings of the discussion, was prepared for each subject.

Half of the couples in each videotape condition received instructional verbal feedback concerning the communication strengths and weaknessess of each spouse. Instructional verbal feedback was administered in written form and spouses were asked to evaluate the accuracy of each feedback item. The rest of the couples did not receive feedback.

During the next 10 minutes, all couples tried to resolve a second problem. Spouses were told to make use of any insights about communication which they had acquired since the first discussion. Subjects then completed the Self and Spouse Ratings of Discussion questionnaires with reference to the second discussion. At the end of the session, couples were extensively debriefed. If requested, information on social service agencies providing marital therapy was furnished. A set of follow-up questionnaires was mailed to couples 6 months after testing. Behavioral ratings of all videotapes were made by trained observers using the Modified Marital Interaction Coding System (MMICS).

Subjects

Subjects were 48 English speaking married couples of average to extremely poor marital adjustment. Eight couples were referred from clinical sources. The others were selected from those who volunteered in response to media publicity about research on marriage at McGill University. Publicity consisted of newspaper, radio and television interviews in which the project was described as a study of communication styles in married couples. In inviting volunteers, the following points were made: a) couples of all ranges of marital adjustment were needed, b) couples would be seen only once for a 3 1/2 hour laboratory session, c) participation in the study was not a substitute for marital therapy, and therapy would not be offered, and d) participating couples

would have the opportunity of seeing themselves on videotape and of discussing marriage with a professional. Interested couples were mailed a packet of questionnaires which included, among other measures, the Marital Adjustment Scale (MAS) (Locke & Wallace, 1959) and Navran's (1967) shortened version of the Primary Communication Inventory (PCI).

Sixty-nine of the 112 interested couples and all eight referred from clinical sources returned completed questionnaires. Of these, the 51 with couple-mean scores of 106 or less on the MAS and 110 or less on the PCI were selected as subjects. These scores are close to the standard cut-off scores of 100 recommended by Burgess, Locke and Thomes (1971) for the MAS, and of 110 recommended by Narvan (1967) for the PCI. All 51 couples selected agreed to participate in the study. However, three couples had to be dropped from the sample: one because of hospitalization, one because a subject did not bring his eye glasses, and one because of equipment failure. The 40 remaining volunteer couples were randomly assigned to the eight experimental conditions. The eight couples referred from clinical sources were also randomly assigned, one to each condition. Thus, there were 12 subjects (6 couples) in each condition.

The mean MAS score for the 96 subjects was 82.5 (SD = 22.6); couple-means ranged from 31 to 106. The mean PCI score was 87.8 (SD = 12.3) and couple-means ranged from 67 to 110. Subjects ranged in age from 21 to 61; the mean was 37 years for husbands and 35 for wives. Subjects had an average of 13 years of education (range 8 to 20 years). Couples had been married between .5 and 31 years, with a mean duration of 11.6 years (SD = 8.3); they had an average of 2 children. Forty-eight percent of couples had received marital therapy.

There were no significant differences among the eight experimental groups on any of these measures.

Apparatus and Physical Setting

One omni-directional microphone and three Sony black-and-white closed circuit 1/2 inch (1.27 cm) videotape systems were used to record dyadic interaction. A Sony model 650 mike mixer was used to record dialogue onto the two videotapes viewed by subjects. Speech was mixed with interval signals on the third videotape. The interval signals consisted of 1200 Hz tones of .15 second duration every 6 seconds. A Hewlett-Packard model AB audio oscillator generated the tone. Timing was regulated by a modified Hunter model 111B Series D decade interval timer.

Two adjacent experimental rooms were used. The couples' room was comfortably furnished with two armchairs located at 60° to each other, coffee tables, magazines, and plants. It contained a microphone, an intercom, three video cameras, and two 21 inch (53.5 cm) Marconi television monitors. Each television monitor was connected to Radio Shack model SF 20 headphones (see Figure 1). The experimenter's room contained additional equipment, including a Sony 12 inch (30.5 cm) television monitor. This arrangement enabled each subject to complete questionnaires, engage in problem solving discussions, communicate with the experimenter through an intercom, and view and hear his or her own television monitor, all in the same room. The experimenter and her assistant were allowed continual visual and auditory monitoring of the couple and were able to hear the interval signals on their television monitor; this was necessary for videotape coding during the discussion sessions.

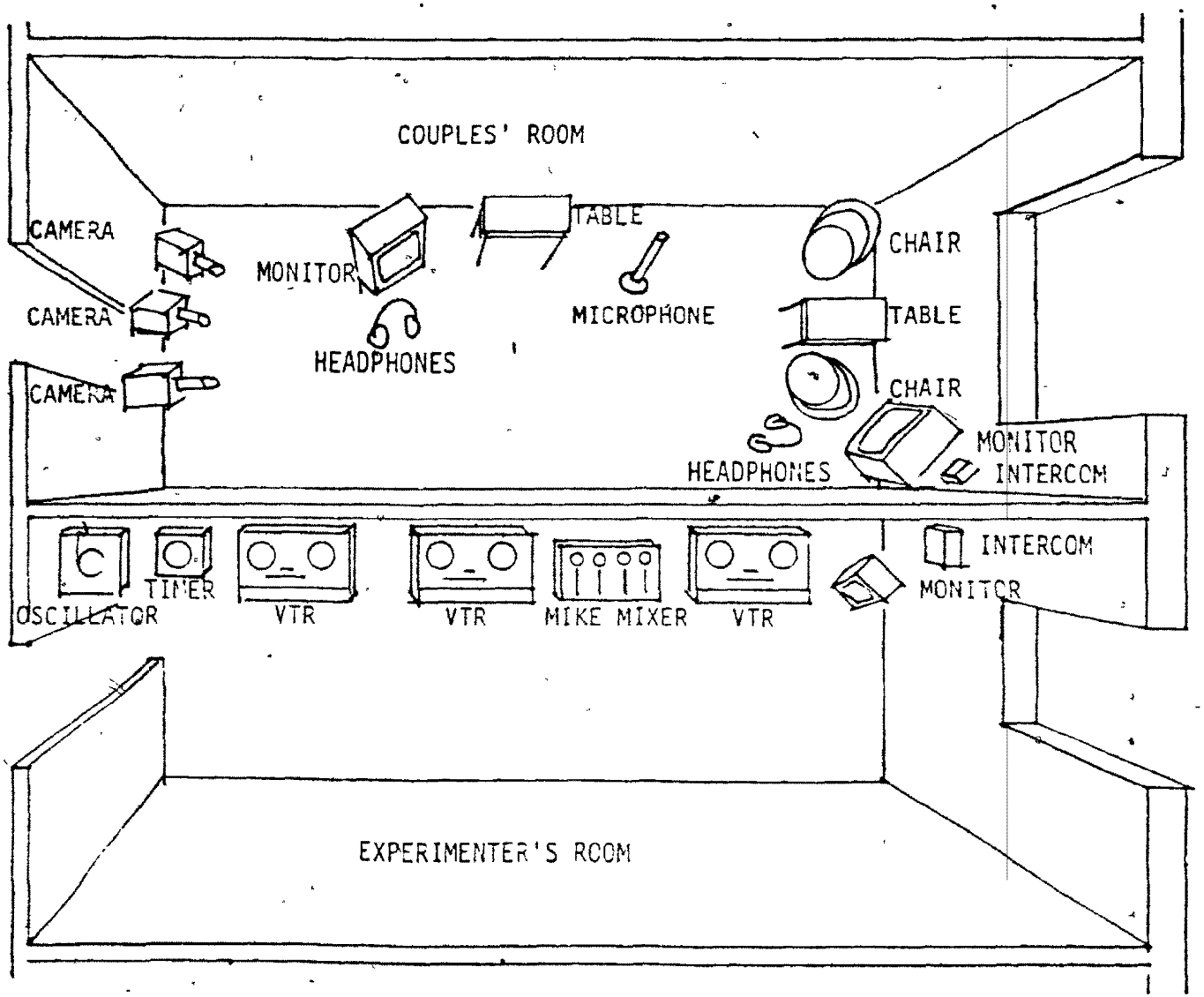

Figure 1. Schematic representation of the experimental rooms.

All videotapes showed the target person(s) from the knees up. Camera angles were adjustable and permitted the recording of spouses alone or together, while yielding the same image size per person (see Figure 2). Chairs were also movable and could be located to enable spouses to wear headphones and to sit back-to-back while viewing only one of the two television monitors from a distance of 4 feet (122 cm) (see Figure 3). All spouses heard both sides of the conversation.

Selection Measures and Initial Mailing Questionnaires (Appendix A)

One copy of the Cover Letter and of the Background Information Sheet and two copies of all other measures listed below were mailed to couples.

Cover Letter. A letter was included to further explain the project and to provide instructions for questionnaire completion.

Background Information Sheet. This form was designed to obtain information concerning spouses' socio-economic status and marital history.

Marital Adjustment Scale (MAS). The MAS (Locke & Wallace, 1959) was used as one of the two screening instruments. It is a 15 item self-report inventory which requires that each spouse evaluate various aspects of married life. The test has demonstrated good test-retest reliability (Kimmel & Van der Veen, 1974) and good discriminative validity (Locke & Wallace, 1959; Navran, 1967). It also is the most frequently reported measure of marital satisfaction (Burgess et al., 1971; Weiss et al., 1973; Wills, Weiss & Patterson, 1974), and, thus, provides a basis for comparison with other studies.

Primary Communication Inventory (PCI). Navran's (1967) shortened version (25 items) of the PCI was included as a questionnaire measure of communication between spouses. As this self-report instrument also has been shown to distin-

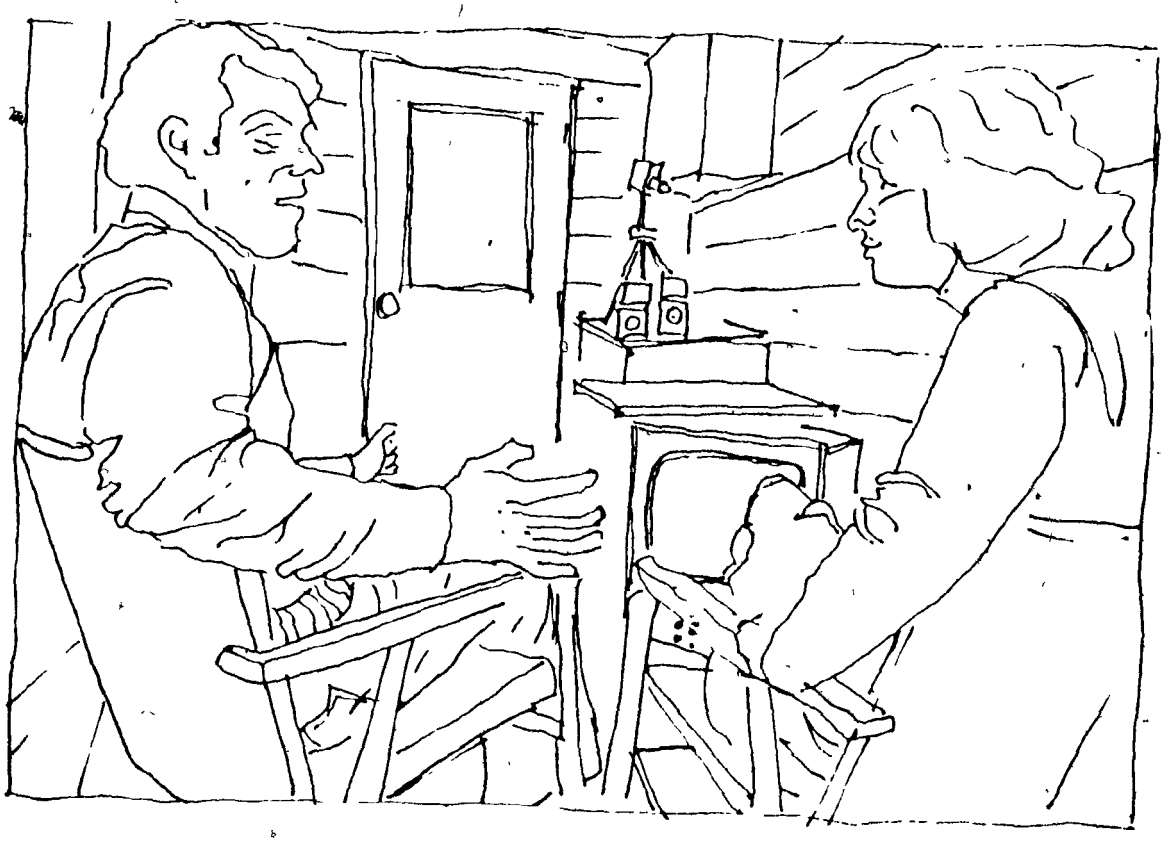

Figure 2. Videotaping of couples.

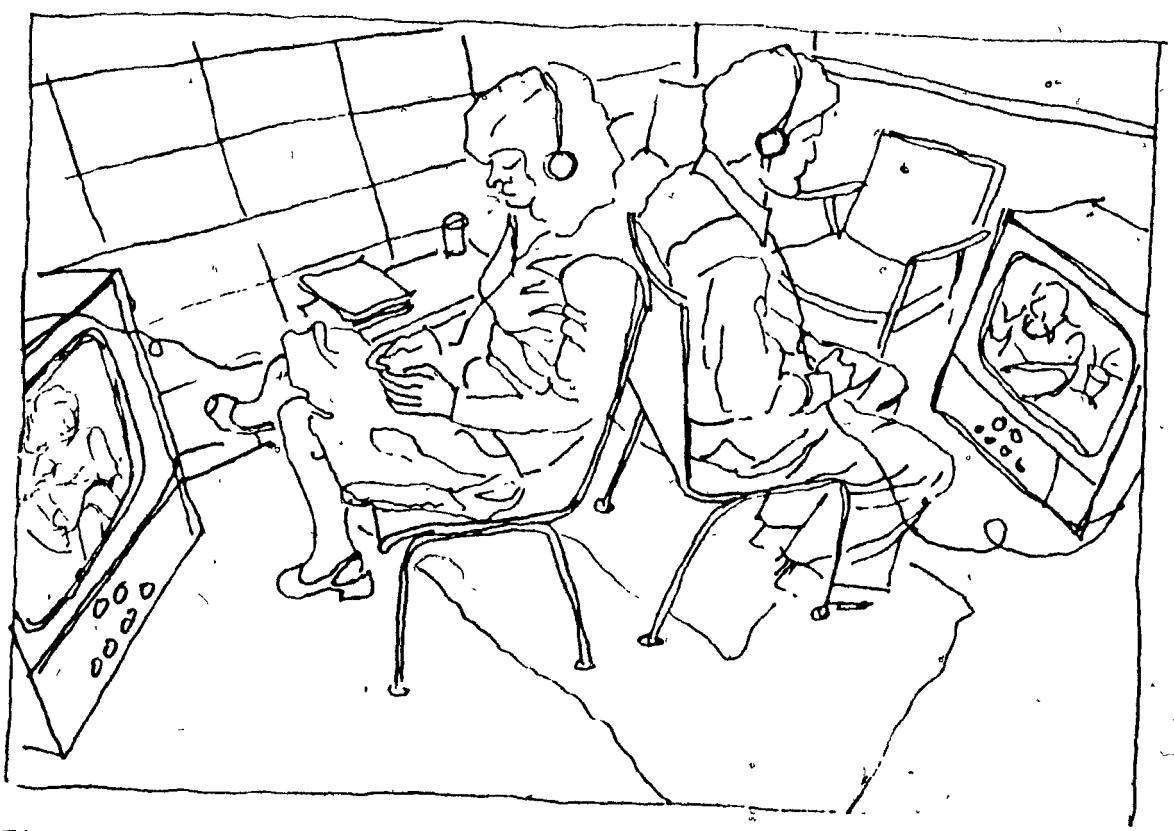

Figure 3. Videotape viewing arrangements.

guish happy from distressed couples (Navran, 1967), it provides an additional index of marital satisfaction.

Communication Rating Scale. This questionnaire was designed to assess frequency of problematic interaction and perceived responsibility for difficulties in communication. It contains 10 questions constructed in 8-point Likert-type format. Only six items (1, 2, 4, 5, 7 and 10) are scored; the rest are fillers. Comparisons between happy and troubled couples who volunteered to participate in the present study indicate that the scored items discriminate between these two groups.

Checklists of Personality Traits Influencing Arguments. Two adjective checklists were compiled to assess subjects' trait attributions to themselves and to their spouse. Each checklist consists of 87 adjectives. Subjects completed four checklists: Own Traits Causing Arguments, Spouse's Traits Causing Arguments, Own Traits Preventing Arguments, and Spouse's Traits Preventing Arguments. The checklists consist of Anderson's (1968) list of adjectives high in meaningfulness. The checklist of Traits Preventing Arguments includes adjectives high in social desirability (social desirability ratings range from a low of 336 for "bold" to a high of 555 for "honest"), while the checklist of Traits Causing Arguments contains adjectives low in social desirability (social desirability ratings range from a low of 72 for "greedy" to a high of 254 for "dependent"). Subjects were instructed to indicate all applicable adjectives and to select the five most important ones on each checklist. The purpose of this instrument was to assess whether subjects differed in the number and social desirability of traits attributed to themselves and to their spouse for causing and preventing arguments.

Areas of Disagreement. This questionnaire is a modified version of Weiss and Margolin's (1977) Marital Conflict Form, an instrument which lists 26 common areas of disagreement between spouses. It was modified to allow subjects to indicate the severity of each area of disagreement on a 4-point scale.

Laboratory Paper-and-Pencil Measures (Appendix B)

The following questionnaires and forms were completed by each subject during the laboratory phase of the study.

Description of Problem Areas. This form was designed to allow subjects to specify, in an open-ended format, those aspects of their spouse's behavior which they find most distressing and which they would like their partner to change. Subjects were asked to do this in each of four topic areas selected from those identified by both spouses as mildly or moderately problematic on the Areas of Disagreement questionnaire.

Self and Spouse Rating Scales. These two questionnaires were constructed to assess subjects' a) perceptions of their own and their spouse's behaviors during typical disagreements at home, b) their attributions about their own and their spouse's importance in determining the atmosphere during such discussions, and c) their attributions about the dispositional and situational causes of these behaviors.

a) Perceptions. Sixteen items were designed to assess subjects' perceptions of the frequency of occurrence of the eight positive and eight negative behaviors evaluated by observers during the videotaping phase of the study (these behaviors are further described later). Items were constructed in 10-point Likert-type format and were arranged alphabetically; thus, negative items were interspersed with positive ones in a non-systematic manner. The

Self Rating and Spouse Rating questionnaires were identical, except for modifications necessary to allow subjects to complete one form with reference to their own behaviors and the other to those of their spouse. Subjects' Self Rating and Spouse Rating Scale scores were each summed after reversing negative items, so that the higher the sum, the more favorable the evaluation.

b) Attributions of control. After responding to a question concerning the atmosphere during typical disagreements, subjects rated the importance of their own and their spouse's role in determining the tone of such discussions on the Self Rating and Spouse Rating Scales, respectively. The items were adapted from questions used by Taylor and Fiske (1975) to assess attributions of control, and were phrased in 10-point Likert-type format.

c) Causal attributions. Three items were designed to evaluate the importance which subjects attributed to their own personality, their spouse's personality and the nature of the discussion topic in determining their own and their partner's behaviors. These questions were 10-point Likert-type adaptations of items used by Storms (1973) to assess causal attributions. The three causal attribution questions were included 16 times on both the Self Rating and Spouse Rating Scales, immediately after each perception item. On the Self Rating Scale, the order of the three items was: self, spouse, topic, while on the Spouse Rating Scale it was: spouse, self, topic.

In order to examine the possibility that self-serving biases influence the attribution process (Bradley, 1978; D. Miller & Ross, 1975), subjects' inferences about the causes of their own and their spouse's Facilitative and Disruptive behaviors were considered separately; this was done by collapsing each 10-point perception item into binary form. Frequent positive and

rare negative behaviors were both considered to be Facilitative. Conversely, frequent negative and rare positive behaviors were both considered to be Disruptive. The importance ratings of each of the three causal attribution items following all Facilitative ratings were averaged, and constituted the causal attribution scores for one's own and for one's spouse's Facilitative behaviors. Causal attribution scores for Disruptive behaviors were computed in a similar manner.

Self and Spouse Ratings of Discussion. These two questionnaires are identical to the Self Rating and Spouse Rating Scales described above, except for modifications necessary to allow subjects to respond in terms of behaviors during discussions in the laboratory.

Evaluations of Husband's and Wife's Communication Skills. These two forms were designed to a) give subjects verbal feedback, in written form, concerning the communication strengths and weaknessess of each spouse, b) provide instructions for improvement and, in an indirect test of attributions, as used by Sicoly and Ross (1977), c) provide a measure of subjects' judgments concerning the accuracy of feedback given them.

Instructional verbal feedback concerning communication strengths and weaknessess was individualized for each subject. Feedback was prepared by two trained observers, one of whom was the author, after they had viewed and rated the behaviors of both spouses during the first discussion session. Instructional verbal feedback was based on the 16 behavioral codes (eight positive and eight negative) used to rate interaction during discussions [see MMICS Feedback Coding Sheet (Appendix D) for the wording of feedback items]. Feedback was prepared in two categories: Facilitative and Disruptive. Two kinds of "Facilitative" feedback were given: Positive Behaviors Frequent and Negative Behaviors Rare. Subjects were instructed to maintain these rates.

The "Disruptive" feedback category also consisted of two divisions: Negative Behaviors Frequent and Positive Behaviors Rare. The instructions specified that these behaviors should be decreased and increased, respectively. As norms were not available, "clinical judgment" was used to select feedback items. The number of Facilitative feedback items was equated for husband and wife, as was the number of Disruptive items. Provision was made for as many as five behaviors in each of the four feedback divisions.

Each subject received the feedback evaluation of both the husband and the wife. In order to indicate their judgments of accuracy, spouses evaluated each feedback item on a 10-point scale (1 = very inaccurate, 10 = very accurate). Thus, all subjects rated the accuracy of both their own and their spouse's "Facilitative" and "Disruptive" feedback items.

Follow-Up Measures (Appendix C)

One copy of the Cover Letter and two of all other measures listed below were mailed to participating subjects 6 months after testing in the laboratory.

Cover Letter. A letter was included to explain the purpose of the questionnaires and to provide instructions for their completion.

Relationship Information Sheet. This form was designed to obtain information about changes in the marital relationship since the time of testing. Subjects also were asked for their evaluation of the effects of participation in the study on their relationship.

Marital Adjustment Scale (MAS). The MAS (see Selection Measures and Initial Mailing Questionnaires for description) was included to provide a measure of marital satisfaction.

Self and Spouse Ratings at Follow-Up. These two questionnaires are identical to the previously described Self and Spouse Rating Scales, with the

exception that all causal attribution items were deleted for the sake of brevity.

Behavioral Measures (Appendix D)

The instruments listed below were used by trained observers to make behavioral ratings of spouses' communication behaviors.

Modified Marital Interaction Coding System (MMICS). The MMICS is a behavioral coding system which was used by trained observers to categorize videotaped dyadic interaction into 17 verbal and non-verbal codes. It is a modified version of the Oregon group's (Hops et al., Note 4) Marital Interaction Coding System (MICS).

The Oregon MICS consists of 29 codes which allow observers to assess the process of dyadic interaction by indicating the frequency with which each spouse emits certain classes of behavior. These 29 codes include both verbal and non-verbal behaviors and may be broken down into descriptive statements and into positive and negative problem solving and support statements. Behavior is coded by observers trained to a minimum criterion of 70% inter-rater agreement, averaged over codes. The coded material is usually expressed as rate per minute or as proportion scores (Vincent, 1973).

For the purposes of the present study, the MICS was modified as follows. Only 17 codes (eight positive, eight negative and one neutral) were used. These consist of the 10 problem solving codes studied by Vincent (1973) because the behaviors grouped into these codes, when expressed as proportions, have been shown to discriminate troubled from happy couples most clearly; these include three positive codes: Acceptance of Responsibility (AR), Compromise Solution (CS), and Positive Solution (PS), and seven negative ones:

Complaint (CP), Criticism (CR), Disagreement (DG), Denial of Responsibility (DR), Excuse (EX), Interrupt (IN) and Put-Down (PU). As it is considered to be easier to positively reinforce the occurrence of behavior than its absence (Weiss, Birchler, & Vincent, 1974), and since the technology available for accelerating behavior is more compatible with constructive marital interaction than the technology of behavioral suppression (Stuart, 1975), it was felt that additional positive codes should be included. Four such codes were adapted from the MICS. These were: Agreement (AG), Approval (AP), Humor/Tension Release (HU), and Verbal Affection (VA). In addition, as all of these codes are verbal, two non-verbal codes from the MICS also were added: a positive one, Physical Affection (PA) and a negative one, Turn-Off (TO), which includes gestures such as frowns and exasperated sighs. A 17th code, Activity (AC) also was added; this code was used for neutral behaviors and for behaviors which did not fit any of the other code definitions. AC was used in the same manner as the equivalent code in the Oregon group's system. In order to effectively use 17 instead of 29 codes, the MICS code definitions were slightly modified (see MMICS Coding Manual in Appendix D).

Thus, the coding system employed in the study consisted of three categories: a) Neutral (consisting of one code), b) Productive (consisting of eight positive codes: seven verbal and one non-verbal) and c) Counterproductive (consisting of eight negative codes: seven verbal and one non-verbal). The composition of these categories is similar to the groupings made by Birchler et al. (1975), Jacobson (1977, in press) and Vincent et al. (1975), and is detailed in Table 1.

Table 1

MMICS Categories and Codes

Category		
Neutral	Productive	Counterproductive
AC Activity	AG Agreement	CP Complaint
	AP Approval	CR Criticism
	AR Acceptance of Responsibility	DG Disagreement
	CS Compromise Solution	DR Denial of Responsibility
	HU Humor/Tension Release	EX Excuse
	[a]PA Physical Affection	IN Interrupt
	PS Positive Solution	PU Put-Down
	VA Verbal Affection	[a]TO Turn-Off

[a] Non-verbal codes.

The recording system itself also was modified. The Oregon MICS uses frequency counts, with the sentence or "utterance" as the unit of behavior. As it has been shown that the joint usage of time and event sampling frequently yields more extensive information than either technique alone (R. Mann, 1976; Plutchik, 1974), the present recording system used 6 second intervals within which any of the 16 coded behaviors was rated as either having occurred or not occurred. The 17th code, AC, was used only when no other codable behaviors occurred. The 6 second interval was selected because this was the shortest time unit in which behaviors could be reliably discriminated during coder training. Videotapes of interaction were coded for each member of the dyad in 6 second intervals throughout the two 10 minute discussions. The data were recorded on the MMICS Coding Sheet. This method yielded independent frequencies

per minute for the husband and for the wife. Thus, the information obtained, although still expressed as rate per minute or as proportion scores, reflects the use of both time and event sampling.

The 48 videotapes of interaction between spouses were coded according to the MMICS by seven undergraduate observers who had been trained to a minimum criterion of 77% inter-rater agreement, averaged over codes. Percentage agreements are based on interval-by-interval computation. Reliability of coding was determined for each rater by the method recommended by O'Leary and Kent (1973); the number of agreements between two observers in recording the occurrence of a particular code during each 6 second interval was divided by the number of agreements plus disagreements in recording each occurrence, that is,

$$\frac{2 \times \text{Number of Agreements}}{(\text{Coder 1 Agreements} + \text{Disagreements}) + (\text{Coder 2 Agreements} + \text{Disagreements})}$$

The average inter-rater reliability after training for the seven coders was 79% (range = 77% to 82%). Approximately 35 hours of training were required to reach this criterion. As suggested by Johnson and Bolstad (1973), periodic booster sessions were held throughout the study to keep reliability at a satisfactory level. Coders were informed that their performance would be monitored (Reid, 1970), and random covert spot-checks of reliability were made throughout the study (Romanczyk, Kent, Diament & O'Leary, 1973; Taplin & Reid, 1973); 16 of the 48 videotapes were coded by at least two trained observers. Only one coder's reliability slipped below 70%. All tapes coded by this observer were re-coded by another trained rater. The average interval-by-interval spot-check reliability of the remaining six coders was 71% (range = 70% to 73%).

Table 2 summarizes both the interval-by-interval and the code-by-code percentage agreements after training and during random spot-checks. The median percentage agreements (Kent & Foster, 1977) for the Productive and Counterproductive categories were 87% and 86%, respectively, after training and 78% and 77%, respectively, during spot-checks. Code-by-code medians were 70% both after training and during spot-checks. These reliabilities compare favorably with those reported by others for behavioral ratings systems in general (Martin, Johnson, Johansson & Wahl, 1976; Rausch, Barry, Hertel & Swain, 1974), and for the MICS in particular (Jacobson, in press).

Table 2

Coder Reliabilities: Percentage Agreements

Unit of analysis	Post-training	Random spot-check[a]
Interval-by-interval		
All codes	79	71
Superordinate categories		
Productive	87	78
Counterproductive	86	77
Code-by-code[b]	(70)	(70)
AC Activity	91	85
AG Agreement	66	64
AP Approval	78	74
AR Acceptance of Responsibility	61	59
CP Complaint	48	60
CR Criticism	87	80
CS Compromise Solution	64	89
DG Disagreement	70	64
DR Denial of Responsibility	54	57
EX Excuse	55	48
HU Humor/Tension Release	78	82
IN Interrupt	81	75
PA Physical Affection	100	94
PS Positive Solution	74	70
PU Put-Down	67	60
TO Turn-Off	64	45
VA Verbal Affection	100	89

Note. All numbers are percentages.

[a] Based on eleven 20 minute tapes. The tapes of the one observer whose interval-by-interval reliability during random spot-checks slipped below 70% were re-coded.

[b] Numbers in brackets are medians.

Although they were aware of the hypotheses of the study, coders were blind to the experimental condition of the couples whose videotapes they rated (Rosenthal, 1966). Coders did not rate the videotapes of couples whom they had observed during testing. As an additional precaution, each coder rated the same number of videotapes in each experimental condition. Videotapes of two 10 minute discussions were rated for each couple. Ratings were made in the sequence in which the discussions occurred. Coders required an average of 3 hours to rate one 20 minute videotape.

Marital Interaction Checklist. This instrument is a checklist of the MMICS codes (Dixon, Note 8; Dixon, Fichten & Wright, Note 9). It was used by trained coders during their initial viewing of a videotape to record the frequency of each behavior. Coders were instructed to record every observed occurrence of each of the 16 behavioral codes (AC was excluded) for the husband and for the wife. The 6 second interval was used as in the MMICS, although for recording purposes the intervals were ignored. As the purpose of this instrument was to assess the accuracy of trained observers in determining behavioral frequencies in a simulated in-vivo situation, the coders were permitted only a single continuous viewing of each videotaped discussion. Average intra-rater code-by-code reliabilities between the MMICS and the Marital Interaction Checklist were found to be high (average Pearson product-moment r (78) = +.756) and correlations within each behavioral code were significantly different from chance at the .001 level (Dixon et al., Note 9).

Marital Interaction Rating Scale(MIRS). This rating scale was developed by Dixon (Note 8); it was used by trained coders after they had completed the Marital Interaction Checklist. This instrument approximates the inferential assessment technique employed by Carter and Thomas (1973) and Thomas et al. (1974) in their investigations of marital interaction.

The scale consists of the same 16 perception items used in the Self and Spouse Rating Scales, except for modifications necessary to enable the coders to answer the questions concerning the husband's and the wife's behaviors. The items are worded in 10-point Likert-type format, and consist of the 16 codes included in the MMICS.

Intra-rater reliabilities between the MMICS and the MIRS codes were calculated; the Pearson product-moment correlation coefficients ranged from +.496 to +.949, with an average Pearson r value of +.739. The correlation coefficients within each behavioral code are significantly different from chance at the .001 level (df= 78) (Dixon et al., Note 9).

Experimental Design

The present study incorporated gender, videotape playback and instructional verbal feedback as its main independent variables. This resulted in a 2 x 4 x 2 factorial design which included 3 between-groups variables: 2 levels of gender (Males, Females), 4 levels of videotape playback (Video Self, Video Spouse, Video Both, No Video Placebo) and 2 levels of instructional verbal feedback (Feedback Yes, Feedback No). A number of analyses also included repeated measures, which also were completely crossed. Repeated measures included 2 levels of each of the following: discussion (Pre-test, Post-test), object of rating (Self, Spouse), perception of behavior (Facilitative, Disruptive), influencing arguments (Causing, Preventing), attribution of control (Self, Spouse) and feedback accuracy (Facilitative, Disruptive), and 3 levels of causal attribution (to the Emitter of behavior, to the Other person, to the nature of the Topic). Questionnaire completion order was counterbalanced in each cell of the design.

Procedure

After the initial telephone contact, all interested couples were randomly assigned to one of two order of questionnaire completion conditions (Self-Spouse, Spouse-Self) and were mailed the previously described Selection Measures and Initial Mailing Questionnaires.

Couples who met the screening criteria were randomly assigned to one of the eight experimental conditions and were each seen for one 3 1/2 hour laboratory session. Upon arrival, subjects were shown into the comfortably furnished couples' room. The purpose of the project, described as a study of communication and problem solving in marriage,was explained to subjects and a brief outline of the nature of the experimental tasks, although not of the sequencing, was provided. Spouses were reassured about the confidentiality the proceedings. All couples agreed to carry out the tasks, and all signed consent forms to allow videotaping. Spouses were taught to use the intercom which allowed communication with the experimenter next door and were asked to complete the Self and Spouse Rating Scales in the questionnaire completion order to which they had been assigned after the initial telephone contact. (All subsequent questionnaires requiring evaluation of oneself and of one's spouse followed this sequence). Spouses were asked not to discuss their responses with each other. They were informed that, with the exception of their answers on the Description of Problem Areas form, which they would be required to complete later, their questionnaire responses would not be disclosed to each other. The Self and Spouse Rating Scales required approximately 25 minutes to complete. During this time couples were served coffee and snacks.

In an attempt to equate subjects' experience with videotape, all couples were videotaped during a 10 minute unstructured interview concerning various relatively neutral aspects of their relationship; spouses were asked, for example, how they met and how long they had dated prior to marriage. Subjects were told that since the initial experience of seeing oneself on videotape is usually engrossing and as people tend to focus on their physical attributes, they would be shown the videotape of the interview so that later, when viewing videotapes of problem solving discussions, they would be better able to attend to what was being said and how it was said.

Having been informed that their responses on the Description of Problem Areas form would be used to structure the videotaped discussions, couples completed this form. Four topic areas were specified; these were selected from those items on the Areas of Disagreement questionnaire which both spouses had previously indicated as problematic in their relationship. Severe problems and certain topic areas, such as sexual adjustment and extra-marital affairs, were not selected, as it was felt that it was unnecessary to require couples to discuss highly personal or very disturbing aspects of their relationship. After the 10 minutes needed to complete this form, couples were shown the videotape of their interview; both husband and wife were visible on the screen and the voice of all three participants could be heard. Spouses stayed in their seats and both viewed the same television monitor. While couples were viewing themselves, the experimenter and her assistant selected the two problem areas to be used in the discussion sessions.

Discussion topics. Subjects' responses on the Description of Problem Areas sheet were examined with respect to the specificity of the behavior changes requested and to the compatibility of requests; two of the four topic areas were selected to generate discussion. A coin was tossed to determine which of these two topics would be used for the first and which for the second discussion. The remaining two topics were similarly designated as contingency problems for each discussion, to be administered whenever couples resolved the original problem or terminated a discussion in less than 10 minutes.

These procedures completed the orientation phase of the study. Couples were informed that the next task would require them to attempt to resolve one of the problems which they had described earlier (on the Description of Problem Areas sheet). Spouses were told that they would be videotaped and that the experimenter would inform them on the intercom at the end of the 10 minutes allowed for this task. Subjects were asked to advise the experimenter, through the intercom, if they finished discussing the problem. The experimenter left the room and used the intercom to tell the couple which problem area they should discuss and what behavior changes had been requested by each.

The discussion was monitored and coded on the MMICS Feedback Coding Sheet by the experimenter and her trained coder assistant in the adjoining room. At this time, both were blind to the experimental condition of the couple. The experimenter's television monitor displayed a visual image of both husband and wife. The audio portion of the output included both the dialogue between spouses as well as the interval signal tone every 6 seconds. After 10 minutes, the couple was interrupted on the intercom. Immediately after they stopped talking, spouses completed the Self and Spouse Ratings of Discussion questionnaires.

Videotape playback conditions. After they had completed the Self and Spouse Ratings of Discussion questionnaires, all couples were informed that the next task consisted of reflecting on the previous discussion for 10 minutes. Subjects were told that spouses in therapy usually indicate that reflection is very helpful in learning about communication between themselves. Couples in the No Video Placebo condition were told to do this by spending 10 minutes' thinking about and writing down their impressions of the discussion and of the salient aspects of their own and their spouse's behaviors. Couples in the other three video conditions were told that they would be reflecting on the previous discussion by watching and listening to a videotape of it. Subjects in the Video Self condition saw an image of themselves only, those in the Video Spouse condition saw their spouse only, while those in the Video Both condition saw themselves as a couple. The visual image included one or both subjects from the knees up. The rationale given to all subjects was the same. They were all told that couples in therapy indicate that such reflection is particularly helpful in learning about marital communication. Spouses in all conditions were requested not to discuss their feelings and impressions with each other, informed about what their partner would be viewing and told that in order to avoid distraction, they would be sitting back-to-back and wearing headphones. Each spouse heard both sides of the conversation in all three video conditions.

After the 10 minutes of "reflection", all couples were again asked to complete the Self and Spouse Ratings of Discussion questionnaires, basing their responses on the same discussion. In giving a rationale for this second questionnaire completion session, the need for quantitive information concerning what couples learned through such reflection was stressed. Completion of

these questionnaires was followed by the instructional verbal feedback intervention.

Feedback conditions. While couples were discussing the first problem area, the experimenter and her trained coder assistant, both blind to the experimental condition of the couple, rated spouses' behaviors during the 10 minute interaction according to the MMICS. Instructional verbal feedback information was compiled while couples were completing the first post-discussion questionnaires. Both observers independently evaluated the husband's and the wife's communication skills in each of the four feedback divisions (Facilitative behaviors: Positive Behaviors Frequent, Negative Behaviors Rare, and Disruptive Behaviors: Negative Behaviors Frequent, Positive Behaviors Rare). The feedback items reported to couples were arrived at by consensus between the two observers.

Three MMICS codes (AR, PS, DR) each incorporate several discrete classes of behavior. When giving spouses feedback on these behaviors, in order to make the information more relevant, the class of behavior was specified (see MMICS Feedback Coding Sheet in Appendix D for wording of feedback items). Evaluations of Husband's and Wife's Communication Skills were prepared for all subjects while both observers were blind to the experimental condition of the couple. When giving couples instructional verbal feedback, behavioral marital therapists often try to equate the amount and type of feedback given each spouse (Wright & Mathieu, 1977). Hence, the number of Facilitative items were equated for husband and wife, as were the number of Disruptive items.

Subjects were presented with the evaluations of both the husband's and the wife's communication skills. The Evaluations of Husband's and Wife's Communication Skills forms contained individualized feedback for each spouse, instructions for improvement, and rating scales to be used by subjects to judge the

accuracy of each feedback item. Having been informed that the feedback evaluations were based on their behavior during the 10 minute discussion session, subjects rated the accuracy of their own and their spouse's feedback. When giving a rationale for requesting feedback accuracy judgments, couples were told that, although the observers are highly accurate in coding interaction when allowed 1 hour to complete the ratings, it is important to evaluate how accurate coders are when they are rating behaviors as these are occurring. This rationale was given because of ethical considerations, discussed by Wright and Mathieu (1977), as it was felt that the instructional verbal feedback must be presented in a tentative manner since training in skills acquisition was not provided. Subjects were asked to evaluate the accuracy of each feedback item on a 10-point scale and were asked not to discuss their ratings with each other.

Once the feedback accuracy ratings were completed by both of them, spouses were instructed to discuss and attempt to resolve the second problem. All couples were told to make use of whatever insight or information they had gained about their communication strengths and weaknesses. This discussion was also videotaped and couples again completed the Self and Spouse Ratings of Discussion questionnaires, this time basing their answers on the second problem solving session. This task concluded the experimental phase of the study and couples were debriefed.

Debriefing. This phase lasted between 15 and 60 minutes, and consisted of discussions about the purpose of the study and subjects' feelings about participation. Spouses in the No Video Placebo condition were shown one of the videotapes of themselves during a problem solving session. All couples who wished to see additional videotapes of themselves were shown these.

During debriefing, the value of the information furnished by subjects in advancing scientific knowledge and in improving couple therapy was emphasized. Subjects who asked questions about their own or their spouse's performance were told that the information available was insufficient for such evaluation. Typically, a general discussion of common communication strengths and weaknesses ensued, and good problem solving and communication strategies were extensively discussed. At no time did the experimenter comment on the communication deficits of spouses, nor did she take sides in any dispute. Couples interested in therapy were furnished with a list of reputable social service and hospital marital therapy agencies in the city.

Follow-up. Six months after their participation in the study, all couples were mailed the follow-up questionnaires described previously. If completed questionnaires were not received within one month of mailing, couples were telephoned as a reminder. No other attempt to obtain follow-up information was made. Completed questionnaires were returned by 51 subjects (53%) (25 couples and 1 wife).

Results

Sample Characteristics

Equivalence of groups. One-way (16 groups) analysis of variance (ANOVA) comparisons of the means of the demographic variables showed no significant differences between the 16 experimental groups in a) length of marriage, b) number of children, c) age, d) education, e) Marital Adjustment Scale (MAS) scores, f) Primary Communication Inventory (PCI) scores, or g) number of Areas of Disagreement. The means and standard deviations of each of these variables are presented in Table E.1 and the results of the analyses in Table E.2 (Appendix E).

No significant differences were found between groups on the MMICS Productive and Counterproductive category frequencies during the pre-test discussion session. These frequencies are expressed as 10 x rate per minute, and are comprised of the sums of all behaviors observed in the eight codes defined *a priori* as Productive and of the eight defined as Counterproductive. (The composition of these categories is detailed in Table 1). Means and standard deviations of the Productive and Counterproductive category behaviors appear in Table E.3 and the results of the two ANOVA comparisons are presented in Table E.4.

Sex differences. Sex differences were not found in a) MAS, b) PCI, c) Self Rating and d) Spouse Rating Scale scores, e) any of the Communication Rating Scale items, or f) the number of Areas of Disagreement. Although no sex difference was found in MMICS Productive category behaviors, females emitted significantly more Counterproductive behaviors than did males during the pre-test discussion session [$t(94) = 3.021$, $p < .01$]. In order to better understand this difference, t tests were performed on all individual codes. Category

and code-by-code pre-test frequencies as well as *t* values are detailed in Table 3. When individual codes were examined, the only significant differences found between males and females were that wives Complained (CP) [$t(94)=3.669$, $p < .001$] and Criticized (CR) [$t(94)=2.642$, $p < .05$] more than their husbands and they Accepted Responsibility (AR) less often [$t(94)=2.214$, $p < .05$]. There was also a tendency for wives to Agree (AG) with their husbands less frequently [$t(94)=1.890$, $p < .07$]. As these are *a posteriori* comparisons, and the α level is affected by the number of tests done, caution should be exercised in interpreting these results.

Communication Behaviors

Effects of video and instructional verbal feedback on Productive and Counterproductive behaviors. Productive and Counterproductive category pre-test, post-test and change score means and standard deviations of the experimental groups are presented in Table E.5. Pre- and post-test scores are expressed as 10 x rate per minute. A positive value on the change scores indicates improvement in the Productive category while a negative value indicates improvement in the Counterproductive category.

As no pre-test group differences were found, further analyses were performed on change scores (post-test minus pre-test) to facilitate interpretation. Three-way [2 (Gender) x 4 (Video) x 2 (Feedback)] between-groups ANOVA comparisons were made on the Productive and on the Counterproductive category change scores. The results of these comparisons, shown in Table E.6, indicate no significant main effects or interactions.

Table 3

Means, Standard Deviations and *t* Values for Sex Differences in MMICS Categories and Codes

Categories and Codes	Males[a]		Females[a]			Sample	
	M	SD	M	SD	t[b]	M	SD
Productive category	17.25	9.21	14.96	10.26	1.151	16.10	9.76
AG (Agreement)	3.81	2.61	2.92	2.36	1.890†	3.37	2.51
AP (Approval)	0.88	1.12	1.08	1.67	0.772	0.98	1.42
AR (Acceptance of responsibility)	3.52	3.25	2.27	2.17	2.214*	2.90	2.82
CS (Compromise solution)	0.15	0.46	0.04	0.20	1.431	0.09	0.36
HU (Humor/tension release)	0.46	0.80	0.56	0.87	0.620	0.51	0.83
PA (Physical affection)	0.15	0.65	0.65	3.76	0.917	0.40	2.70
PS (Positive solution)	8.25	6.83	7.35	6.12	0.656	7.80	6.47
VA (Verbal affection)	0.04	0.20	0.08	0.40	0.632	0.06	0.32
Counterproductive category	32.73	14.89	42.94	17.54	3.021**	37.83	16.98
CP (Complaint)	4.04	3.44	7.94	6.39	3.669***	5.99	5.47
CR (Criticism)	9.17	6.49	13.40	8.70	2.642*	11.28	7.92
DG (Disagreement)	1.90	2.36	1.96	2.25	0.134	1.93	2.30
DR (Denial of responsibility)	5.96	9.56	5.50	4.57	0.296	5.73	7.46
EX (Excuse)	2.02	2.74	1.77	3.69	0.391	1.90	3.24
IN (Interrupt)	8.79	5.26	11.00	6.96	1.726	9.90	6.24
PU (Put-down)	0.46	0.87	0.96	2.17	1.480	0.71	1.67
TO (Turn-off)	0.40	0.77	0.42	1.07	0.110	0.41	0.92

Note. Scores are expressed as 10 x rate per minute.

[a] n =48 for each group.

[b] 2 tailed t test. df =94.

†$p < .07$.

*$p < .05$.

**$p < .01$.

***$p < .001$.

To correct for positive skewness in the distribution of code and category frequencies and for the effects of possible outliers, natural log transformations were performed. Code log values were summed to constitute log Productive and Counterproductive category scores. Three-way [2 (Gender) x 4 (Video) x 2 (Feedback)] between groups ANOVA comparisons were performed on post-test minus pre-test log scores. As is evident from Table E.7, which shows the means and standard deviations of these change scores, the log transformation reduced the heterogeneity of cell variances. Nevertheless, there were no significant main effects or interactions (see Table E.8).

Specific hypotheses were made concerning differences between self-viewing and spouse-viewing subjects, as well as between those viewing themselves as a couple and those receiving the No Video Placebo treatment. Two separate ANOVA tests comparing two video groups at a time were made; no significant differences were found on these tests.

Weinrott (1976) makes a strong case for cumulating frequency data from observational codes only after the frequencies have been transformed to standard (z) scores. He argues that the addition of frequencies based on codes with different means and standard deviations is inappropriate, especially as some low frequency positive (e.g. Compromise Solution) and negative behaviors (e.g. Put-Down) may be especially important. In accordance with his recommendations, standard (z) score Productive and Counterproductive category totals were computed by summing the z scores (calculated separately for each discussion) of the eight positive and of the eight negative codes, respectively. Three-way between groups ANOVA comparisons were made on post-test minus pre-test Productive and Counterproductive category z scores. Again, no significant main effects or interactions were found. The results of these analyses are presented in Table E.9.

Vincent (1973) found significant differences between happy and troubled couples when he used proportions in data analysis, while he did not find significant differences when he examined rate per minute scores. In converting rates per minute to proportions, both Jacobson (1977) and Vincent divided the frequency of each code by the total of all code frequencies. As the total includes a) the code which is being proportioned and b) both positive and negative codes, it may be both more legitimate and clinically meaningful to examine Productive : Counterproductive or Counterproductive : Productive proportions.

Two types of proportions were, therefore, calculated. Following Vincent's example, Productive : Total and Counterproductive : Total quotients were computed. In addition, Productive : Counterproductive and Counterproductive : Productive proportions were also obtained. As there was no conceptual or empirical basis for selecting one or the other of these two latter proportions, both were examined in post hoc tests.

Post-test minus pre-test change scores were used in 3-way [2 (Gender) x 4 (Video) x 2 (Feedback)] between-groups ANOVA comparisons on each of these proportions. As indicated by the results in Tables E.10 and E.11, no significant main effects or interactions were found on any of these four tests.

In summary, the results reviewed above indicate that in spite of the large variety of ways in which the data were analyzed, video and instructional verbal feedback were not shown to have significant effects on Productive and Counterproductive category behaviors.

Effects of video and instructional verbal feedback on behaviors in each code. It was possible that videotape and feedback had differential effects on behaviors in different codes, especially on non-verbal behaviors (Eisler et al., 1973), and that pooling codes into superordinate categories may have

cancelled out existing differences. Therefore, the effects of video and of instructional verbal feedback on behaviors in each of the 16 individual codes were examined separately. Change scores based on natural log transformed frequencies were used in 3-way between-groups ANOVA comparisons [2 (Gender) x 4 (Video) x 2 (Feedback)].

No significant main effects or interactions were found in 11 of the 16 tests. For the sake of brevity, data are presented only for those codes in which significant differences were found. Table 4 shows the means and standard deviations and Table 5 presents the ANOVA results for the three negative codes (CR, EX, PU), while Tables 6 and 7 contain this information for the two positive codes (AP, HU).

A significant C (Feedback) main effect was found in the PU (Put-Down) code; those who received verbal feedback improved more than those who did not receive it [$F(1,80)=6.255$, $p<.05$]. Although no other significant main effects were found, significant A x B x C (Gender x Video x Feedback) interactions were found in the CR (Criticism), EX (Excuse), AP (Approval), and HU (Humor/Tension Release) codes. Tests of simple effects were performed on the A x C (Gender x Feedback) means in each level of B (Video).

In the CR code, tests of simple effects showed a significant difference in B_2 (Video Both) [$F(1,80)=4.418$, $p<.05$] and in B_4 (No Video Placebo) [$F(1,80)=5.872$, $p<.05$]. These interactions are depicted in Figure 4. A further breakdown of these interactions shows a significant C (Feedback) effect only for females (A_2) in B_4 (No Video Placebo), indicating that females who did not receive feedback improved more than those who did [$F(1,80)=4.766$, $p<.05$].

Table 4

Means and Standard Deviations of Log Negative Code Change Scores

Group[a]	Code					
	CR (Criticism)		EX (Excuse)		PU (Put-Down)	
	M	SD	M	SD	M	SD
Males						
Video self						
Feedback yes	-0.422	0.890	0.183	0.504	0.116	0.283
Feedback no	-0.325	0.595	-0.008	0.994	-0.231	0.358
Video spouse						
Feedback yes	0.296	1.254	0.462	0.566	-0.183	0.627
Feedback no	-0.435	0.784	-0.615	0.647	0.414	0.477
Video both						
Feedback yes	0.023	0.827	-0.305	0.869	-0.183	0.627
Feedback no	-0.348	0.678	0.279	0.622	-0.268	0.657
No video placebo						
Feedback yes	-0.523	1.326	0.324	0.960	-0.530	0.621
Feedback no	0.037	0.621	0.287	0.742	0.414	0.648
Females						
Video self						
Feedback yes	0.103	0.629	-0.048	0.656	-0.116	0.522
Feedback no	0.333	0.386	-1.038	1.115	0.394	0.480
Video spouse						
Feedback yes	-0.433	0.622	-0.451	1.245	-0.462	0.998
Feedback no	0.176	0.862	0.312	1.296	0.116	0.283
Video both						
Feedback yes	-0.320	0.783	0.209	0.997	-0.421	1.142
Feedback no	-0.145	0.442	-0.440	0.996	0.078	0.995
No video placebo						
Feedback yes	0.551	0.697	-0.116	0.522	0.183	0.298
Feedback no	-0.432	0.404	-0.183	0.977	0.231	0.896

Note. Negative scores indicate improvement. Code frequencies were transformed to natural log scores before difference scores were calculated.

[a] $n = 6$ for each group.

Table 5

Analyses of Variance on Log Negative Code Change Scores

Source	SS	DE	MS	F
		CR (Criticism)		
A (Gender)	0.8763	1	0.8763	1.4378
B (Video)	0.2148	3	0.0716	0.1175
C (Feedback)	0.0642	1	0.0642	0.1053
A x B	1.8224	3	0.6075	0.9967
A x C	0.0846	1	0.0846	0.1388
B x C	0.4448	3	0.1483	0.2433
A x B x C	6.6589	3	2.2196	3.6418*
Error	48.7593	80	0.6095	
A x C (B_1)	0.0265	1	0.0265	0.0435
A x C (B_2)	2.6926	1	2.6926	4.4178*
A x C (B_3)	0.4477	1	0.4477	0.7346
A x C (B_4)	3.5790	1	3.5790	5.8721*
C (A_1B_2)	1.6023	1	1.6023	2.6290
C (A_2B_2)	1.1125	1	1.1125	1.8254
C (A_1B_4)	0.9429	1	0.9429	1.5471
C (A_2B_4)	2.9050	1	2.9050	4.7662*
Error	48.7593	80	0.6095	
		EX (Excuse)		
A (Gender)	2.0924	1	2.0924	2.6337
B (Video)	1.1242	3	0.3747	0.4717
C (Feedback)	1.0389	1	1.0389	1.3077
A x B	1.5959	3	0.5320	0.6696
A x C	0.0183	1	0.0183	0.0230
B x C	1.2239	3	0.4080	0.5135
A x B x C	8.2951	3	2.7650	3.4803*
Error	63.5590	80	0.7945	
A x C (B_1)	0.9564	1	0.9564	1.2038
A x C (B_2)	5.0784	1	5.0784	6.3920*
A x C (B_3)	2.2773	1	2.2773	2.8664
A x C (B_4)	0.0014	1	0.0014	0.0017
C (A_1B_2)	3.4777	1	3.4777	4.3772*
C (A_2B_2)	1.7480	1	1.7480	2.2002
Error	63.5590	80	0.7945	
		PU (Put-Down)		
A (Gender)	0.0777	1	0.0777	0.1721
B (Video)	1.0644	3	0.3548	0.7858
C (Feedback)	2.8239	1	2.8239	6.2546*
A x B	1.0943	3	0.3648	0.8079
A x C	0.1033	1	0.1033	0.2288
B x C	1.0190	3	0.3397	0.7524
A x B x C	2.7136	3	0.9045	2.0035
Error	36.1190	80	0.4515	

* $p < .05$.

Table 6

Means and Standard Deviations of Log Positive Code Change Scores

Group[a]	Code: AP (Approval) M	AP (Approval) SD	HU (Humor) M	HU (Humor) SD
Males				
Video self				
Feedback yes	-0.462	1.043	-0.048	0.789
Feedback no	-0.048	0.454	0.000	0.438
Video spouse				
Feedback yes	0.153	0.576	-0.116	0.283
Feedback no	-0.068	0.666	-0.048	0.117
Video both				
Feedback yes	-0.090	0.843	-0.116	0.283
Feedback no	0.347	0.580	0.567	1.052
No video placebo				
Feedback yes	0.299	0.825	0.048	0.355
Feedback no	-0.347	0.580	-0.414	0.477
Females				
Video self				
Feedback yes	0.482	1.034	0.000	0.438
Feedback no	-0.105	0.848	0.116	0.283
Video spouse				
Feedback yes	0.116	0.681	-0.163	0.439
Feedback no	0.183	0.449	0.183	0.449
Video both				
Feedback yes	-0.163	0.284	0.183	0.448
Feedback no	-0.183	0.756	-0.211	1.020
No video placebo				
Feedback yes	-0.376	1.145	-0.414	0.477
Feedback no	0.414	0.981	-0.116	0.283

Note. Positive scores indicate improvement. Code frequencies were transformed to natural log scores before difference scores were calculated.

[a] $n = 6$ for each group.

Table 7

Analyses of Variance on Log Positive Code Change Scores

Source	SS	DF	MS	F
		AP (Approval)		
A (Gender)	0.1278	1	0.1278	0.2248
B (Video)	0.2508	3	0.0836	0.1471
C (Feedback)	0.0208	1	0.0208	0.0367
A x B	1.6773	3	0.5591	0.9835
A x C	0.0265	1	0.0265	0.0466
B x C	0.3503	3	0.1168	0.2054
A x B x C	5.0006	3	1.6669	2.9322*
Error	45.4778	80	0.5685	
A x C (B_1)	1.5039	1	1.5039	2.6454
A x C (B_2)	0.1249	1	0.1249	0.2196
A x C (B_3)	0.3121	1	0.3121	0.5491
A x C (B_4)	3.0882	1	3.0882	5.4324*
C (A_1B_4)	1.2487	1	1.2487	2.1967
C (A_2B_4)	1.8707	1	1.8707	3.2908
Error	45.4778	80	0.5685	
		HU (Humor)		
A (Gender)	0.0330	1	0.0330	0.1131
B (Video)	1.3976	3	0.4659	1.5968
C (Feedback)	0.1850	1	0.1850	0.6340
A x B	0.4427	3	0.1476	0.5058
A x C	0.0003	1	0.0003	0.0012
B x C	0.2769	3	0.0923	0.3164
A x B x C	2.7304	3	0.9101	3.1194*
Error	23.3409	80	0.2918	
A x C (B_1)	0.0069	1	0.0069	0.0235
A x C (B_2)	0.1166	1	0.1166	0.3997
A x C (B_3)	1.7393	1	1.7393	5.9616*
A x C (B_4)	2.0085	1	2.0085	6.8841*
C (A_1B_3)	1.3974	1	1.3974	4.7896*
C (A_2B_3)	0.4665	1	0.4665	1.5989
C (A_1B_4)	0.6403	1	0.6403	2.1947
C (A_2B_4)	0.2676	1	0.2676	0.9172
Error	23.3409	80	0.2918	

*$p < .05$.

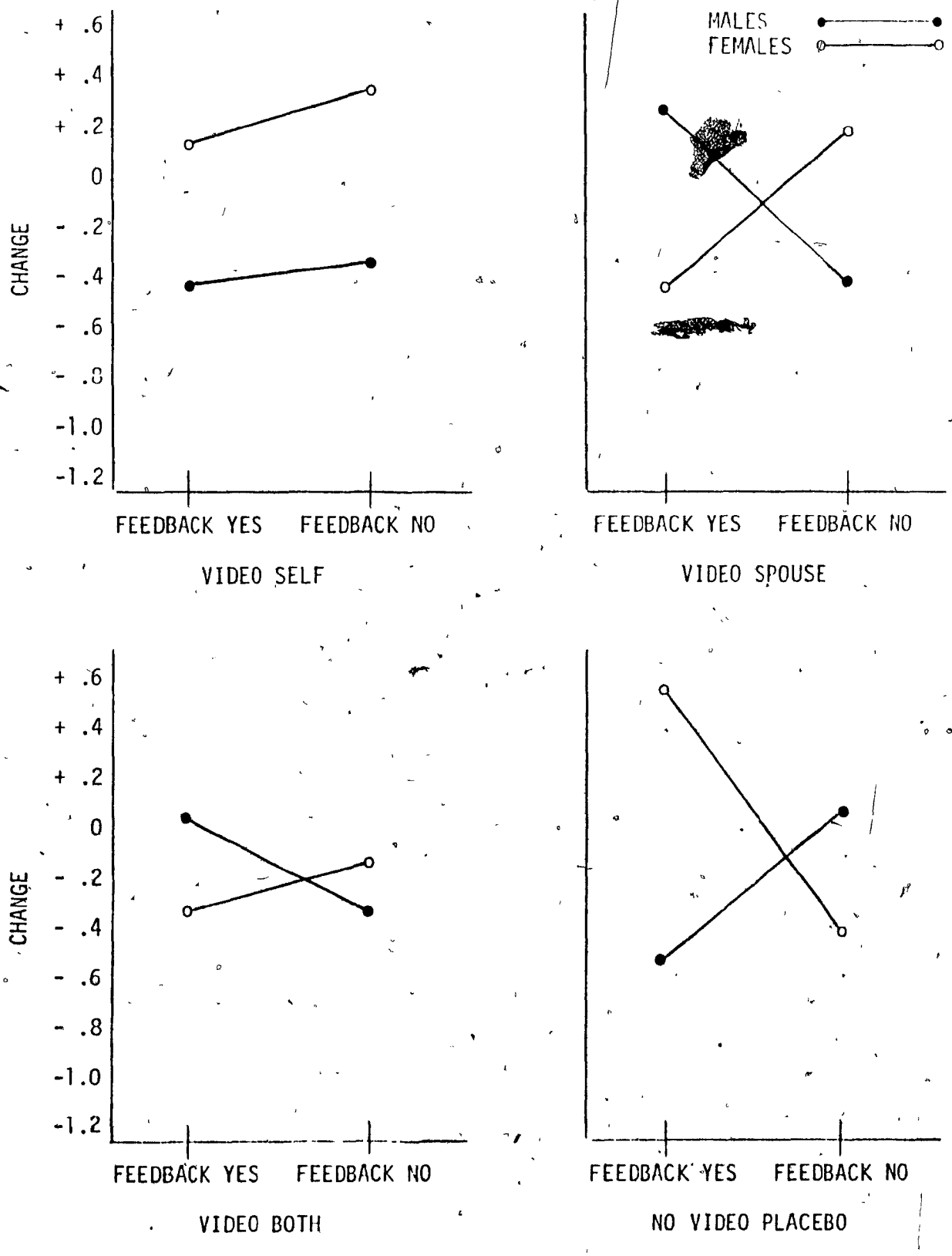

Figure 4. Gender x Video x Feedback interaction in natural log CR (Criticism) code change scores. Negative scores indicate improvement.

In the EX code, a significant A x C interaction was found only in B_2 (Video Spouse) [$F(1,80)=6.392$, $p<.05$]. The means of this interaction are presented in Figure 5. Simple effects were tested in each level of A (Gender); results indicate that males not given feedback improved more than those who were given feedback [$F(1,80)=4.377$, $p<.05$].

In the AP code, the A x C interaction was significant only in B_4 (No Video Placebo) [$F(1,80)=5.432$, $p<.05$]. Males who were given feedback improved relative to those who were not, while females who did not receive feedback improved relative to those who did receive it. This relationship is seen most clearly in Figure 6. Breaking this interaction down further by gender did not yield any significant differences.

In the HU code, the results were significant in B_3 (Video Both) [$F(1,80)=5.962$, $p<.05$] and B_4 (No Video Placebo) [$F(1,80)=6.884$, $p<.05$]. The A x C interaction means are presented in Figure 7. In the Video Both (B_3) condition, tests of simple effects in A_1 (Males) and A_2 (Females) indicate that males who did not receive feedback improved more than those who did [$F(1,80)=4.790$, $p<.05$], while no significant difference was found for females. Breaking down the A x C interaction by gender in B_4 (No Video Placebo) revealed no significant differences.

The results detailed above indicate that only one significant main effect was found in the 16 code-by-code comparisons. This main effect showed that subjects given instructional verbal feedback decreased the number of Put-Downs they emitted compared to subjects not given feedback. Significant 3-way interactions were found on 4 tests; tests of simple effects on these interactions did not reveal consistencies. Given the large number of tests and their *a posteriori* nature, it is probably safe to conclude that, in general, video and

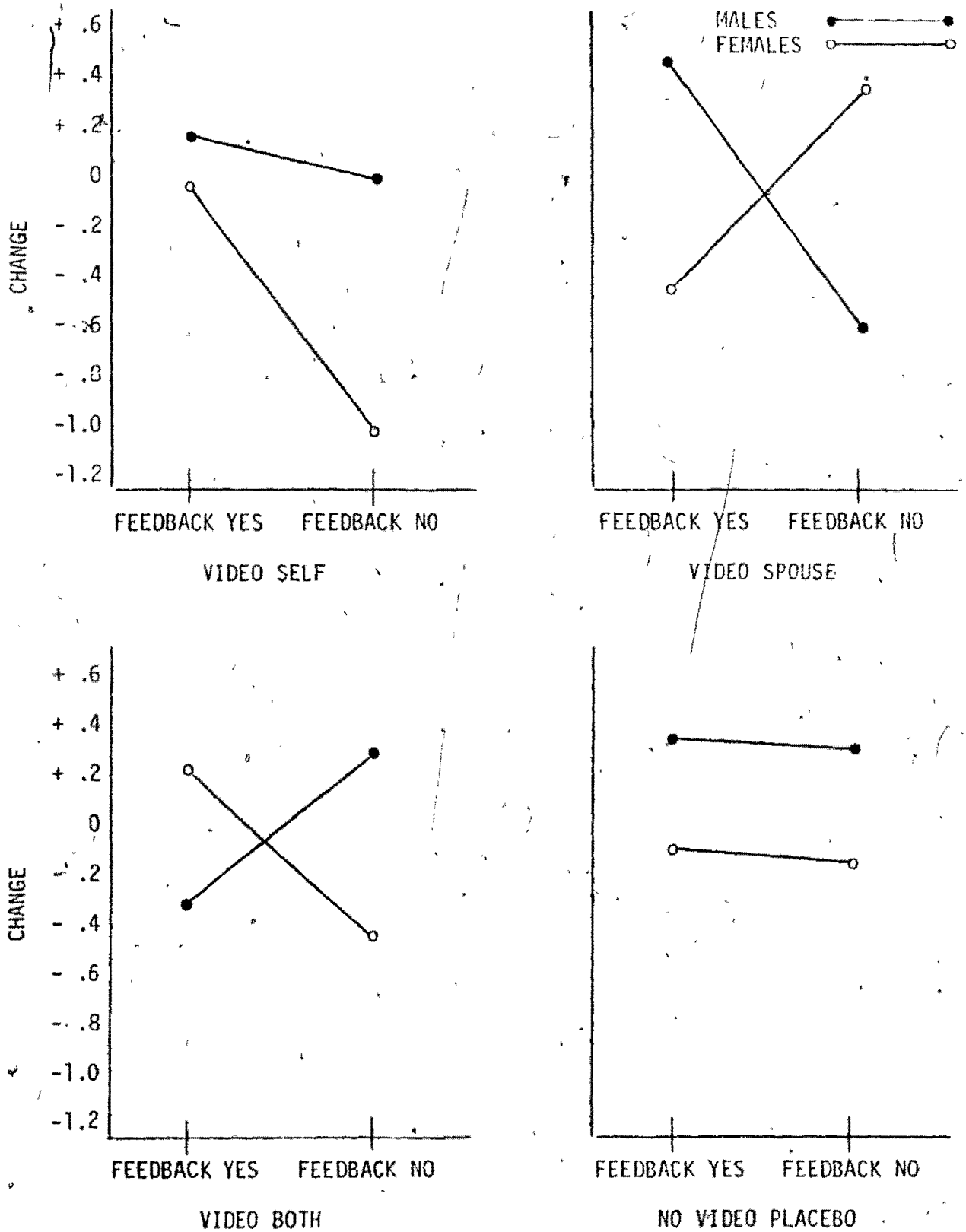

Figure 5. Gender x Video x Feedback interaction in natural log EX (Excuse) code change scores. Negative scores indicate improvement.

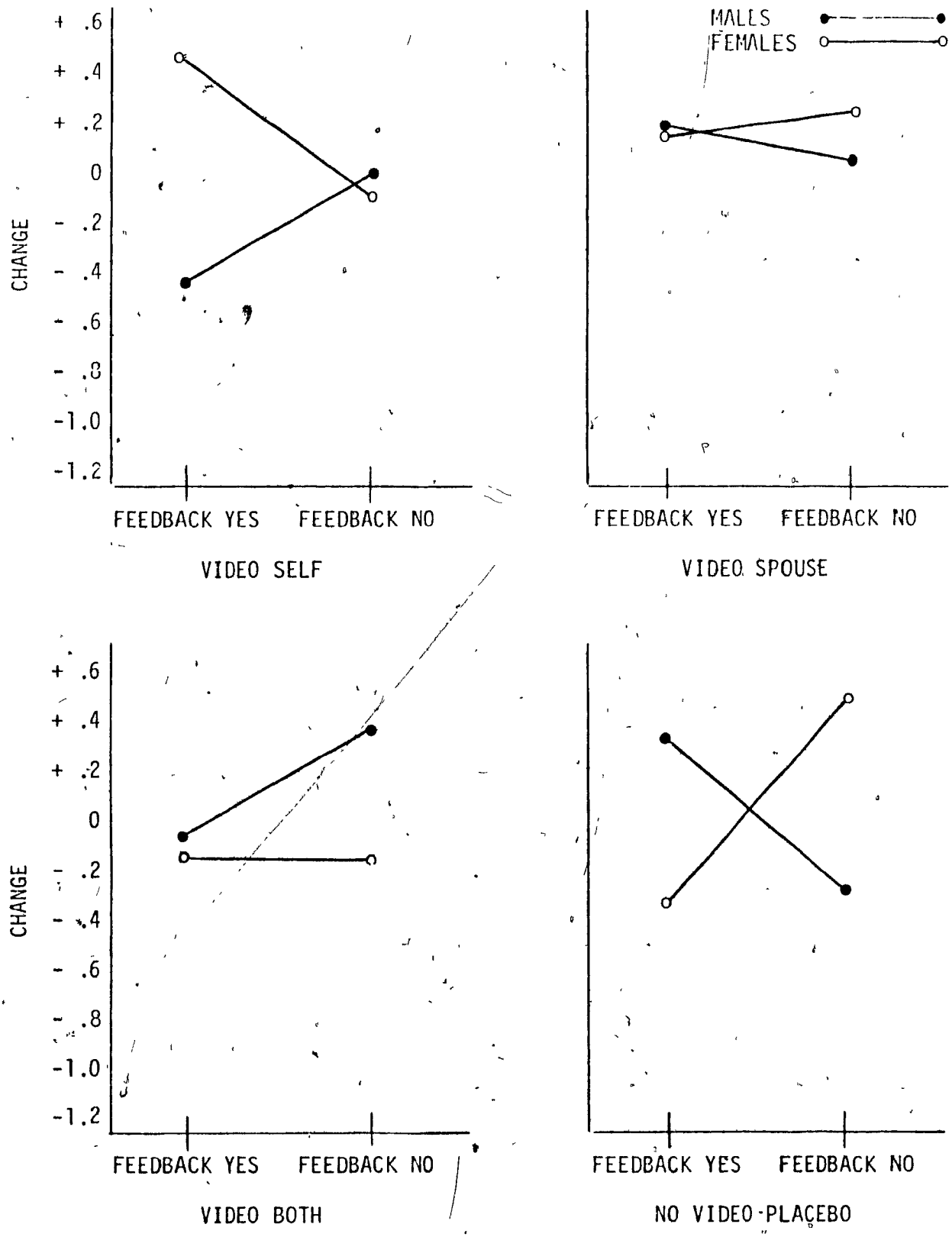

Figure 6. Gender x Video x Feedback interaction in natural log AP (Approval) code change scores. Positive scores indicate improvement.

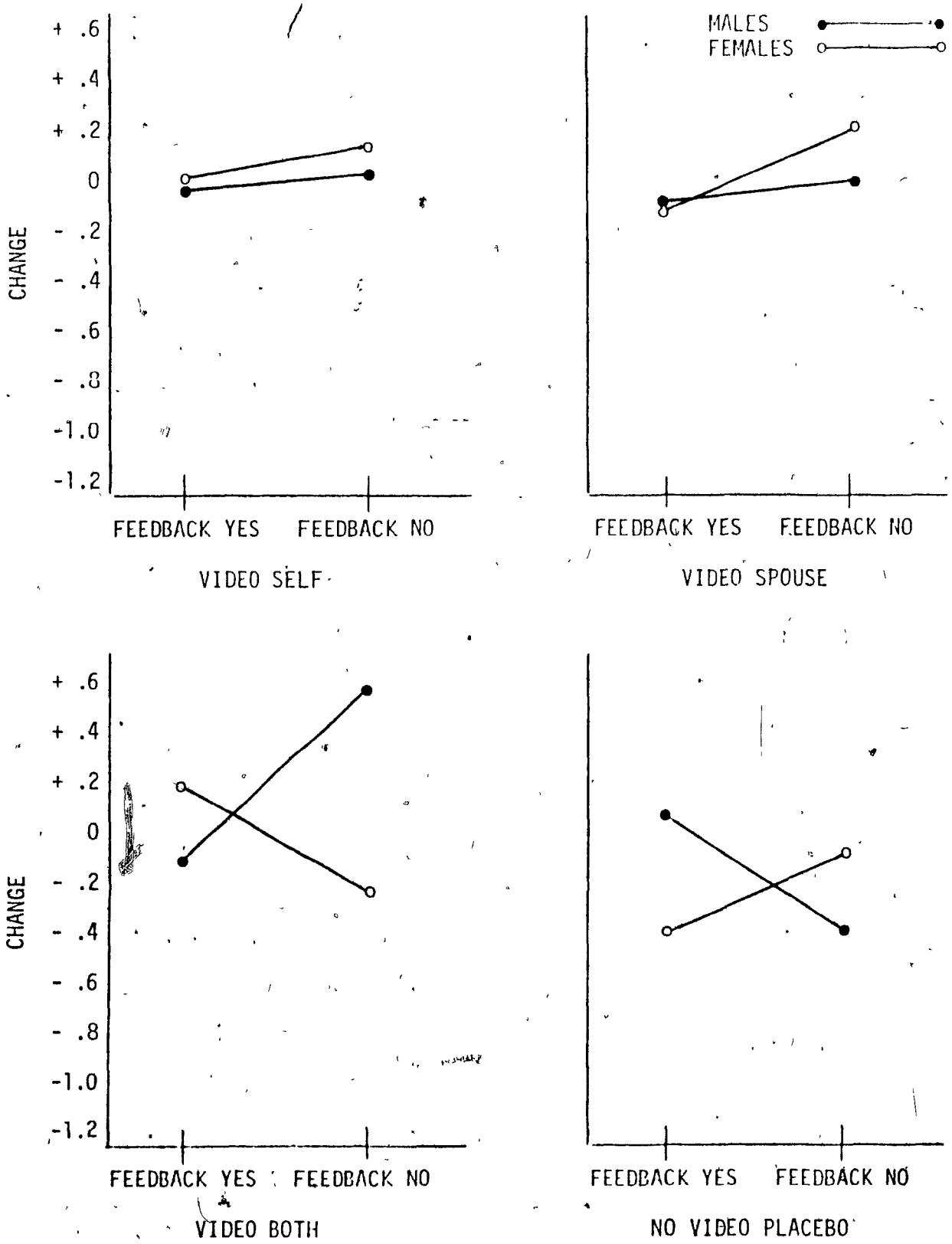

Figure 7. Gender x Video x Feedback interaction in natural log HU (Humor) code change scores. Positive scores indicate improvement.

instructional verbal feedback do not have significant effects on either verbal or on non-verbal behaviors,

Effects of video and instructional verbal feedback on behaviors targeted for treatment. In previous analyses, no differentiation was made between those behaviors of each subject which were targeted for treatment and those which were not. As instructional verbal feedback concerning the specific communication strengths and weaknessess of each subject was prepared, the effects of videotape and of feedback on changes in these behaviors also were examined.

Instructional verbal feedback in two categories (Facilitative, Disruptive) was prepared for all subjects. However, only 50% of couples in each video condition were actually administered feedback. Therefore, it was possible to compare changes in behaviors targeted for treatment between subjects who did and those who did not receive feedback.

The two feedback categories (Facilitative and Disruptive) were each composed of two divisions (see Evaluations of Husband's and Wife's Communication Skills, Appendix B). The Facilitative category included a) Positive Behaviors Frequent and b) Negative Behaviors Rare divisions; the Disruptive category was composed of c) Negative Behaviors Frequent and d) Positive Behaviors Rare divisions. Provision was made for as many as five feedback items in each division. Feedback items were based on the 16 behavioral codes of MMICS. The number of behavioral codes in which feedback was given was equated for husband and wife in both the Facilitative as well as in the Disruptive categories, although this was not done in each of the four divisions.

As videotape and feedback may have had different effects on frequent behaviors than on infrequent ones, 4-way (3 between-groups, 1 repeated measure) ANOVA

comparisons [2 (Gender) x 4 (Video) x 2 (Feedback) x 2 (Pre/Post)] were made on the summed frequencies of all codes in each of the four divisions. There were no significant differences among the experimental groups in the number of codes used in each division to provide feedback. The Ns for these four comparisons are slightly different, as some subjects were given feedback in only two or three of the four divisions. The pre-test and post-test means and standard deviations used in the ANOVA tests are presented in Tables 8 and 9 and the results in Tables 10 and 11. Only interactions with the D (Pre/Post) factor pertain to the hypotheses.

In the four comparisons, only one significant interaction containing the D factor was found. This was a D x C (Pre/Post x Feedback) interaction in the Positive Behaviors Rare division of the Disruptive category; subjects who were not given feedback improved relative to those who were given feedback [$F(1,56)=4.696$, $p<.05$]. Test of simple effects were performed on the D means in each level of C. Results in C_1 (Feedback Yes) were not significant while those in C_2 (Feedback No) show a significant improvement [$F(1,56)=10.541$, $p<.01$].

A significant A (Gender) main effect was also found in the Negative Behaviors Frequent division [$F(1,72)=4.924$, $p<.05$]; females emitted more negative behaviors than males. Significant D (Pre/Post) main effects were found in the Negative Behaviors Rare, [$F(1,56)=4.685$, $p<.05$], Negative Behaviors Frequent [$F(1,72)=5.662$, $p<.05$] and in the Positive Behaviors Rare divisions [$F(1,56)=4.421$, $p<.05$]. These may reflect a regression toward the mean, as rare behaviors, both negative and positive, increased from pre- to post-testing while high frequency negative behaviors decreased.

Table 8

Means and Standard Deviations of Facilitative Category Behaviors

	Facilitative Category									
	Positive Behaviors Frequent[a]					Negative Behaviors Rare[b]				
		Pre		Post			Pre		Post	
Group	n	M	SD	M	SD	n	M	SD	M	SD
Males										
Video self										
Feedback yes	6	10.33	3.39	6.50	3.78	5	0.80	1.30	1.60	0.89
Feedback no	4	10.50	10.50	4.50	2.38	4	5.25	3.40	4.25	2.22
Video spouse										
Feedback yes	5	15.40	15.60	8.00	6.33	4	3.50	4.04	8.00	8.91
Feedback no	3	19.00	8.19	11.67	7.37	6	2.33	3.83	3.67	7.55
Video both										
Feedback yes	5	10.40	9.81	10.80	13.85	5	1.80	1.79	2.60	3.21
Feedback no	6	10.67	6.15	8.67	7.89	4	2.00	2.83	2.50	3.11
No video placebo										
Feedback yes	3	10.33	3.79	11.00	7.81	5	6.80	6.30	7.60	6.73
Feedback no	5	12.20	5.40	8.80	8.08	5	1.80	2.45	3.40	1.95
Females										
Video self										
Feedback yes	6	23.17	35.52	12.33	14.95	4	2.00	4.00	2.75	3.59
Feedback no	3	5.33	2.52	4.67	2.52	5	7.40	8.02	7.60	6.73
Video spouse										
Feedback yes	4	11.25	10.40	16.75	12.26	4	4.25	2.06	7.25	10.63
Feedback no	4	8.25	5.91	5.50	4.80	5	1.60	2.30	4.60	5.55
Video both										
Feedback yes	4	8.50	8.58	10.50	7.94	5	1.60	3.58	3.40	6.50
Feedback no	6	12.00	8.03	6.50	2.95	4	2.25	2.63	2.50	3.32
No video placebo										
Feedback yes	6	13.50	9.31	10.83	7.31	2	0.00	0.00	0.00	0.00
Feedback no	6	7.50	8.19	7.17	7.68	5	1.20	1.30	2.20	2.68

Note. The Ns are slightly different, as some subjects were given feedback in only one of the two divisions. Values are sums of 10 x rate per minute scores.

[a] Improvement is indicated by higher post than pre values.

[b] Improvement is indicated by lower post than pre values.

Table 9

Means and Standard Deviations of Disruptive Category Behaviors

	Disruptive Category								
	Negative Behaviors Frequent[a]					Positive Behaviors Rare[b]			
	Pre			Post		Pre		Post	
Group	n	M	SD	M	SD	n	M	SD	M	SD
Males									
Video self									
Feedback yes	6	19.83	11.34	17.16	9.91	4	2.75	5.50	2.50	5.00
Feedback no	6	11.67	7.39	10.66	9.56	5	2.20	3.90	5.40	5.27
Video spouse									
Feedback yes	4	18.75	6.85	17.00	15.19	5	0.40	0.89	1.60	1.82
Feedback no	4	27.25	8.26	20.50	17.79	6	1.83	1.94	3.17	4.40
Video both									
Feedback yes	6	27.33	25.07	16.00	20.96	5	4.00	3.94	3.60	4.10
Feedback no	5	22.20	11.28	22.60	15.14	5	0.60	1.34	1.40	1.67
No video placebo									
Feedback yes	6	14.17	12.95	12.83	12.56	4	2.25	4.50	2.50	3.79
Feedback no	5	20.00	8.49	16.60	10.21	5	0.80	1.10	1.40	1.52
Females									
Video self									
Feedback yes	6	24.50	19.49	18.66	10.09	5	3.00	4.12	3.80	4.38
Feedback no	6	26.67	11.27	33.50	10.41	5	1.20	1.30	3.20	4.32
Video spouse									
Feedback yes	6	25.67	20.40	14.33	14.00	4	2.25	3.30	2.75	5.50
Feedback no	6	34.50	25.85	33.83	22.76	4	2.00	2.45	2.50	5.00
Video both									
Feedback yes	6	34.33	22.58	29.33	18.29	4	1.75	2.36	0.50	0.58
Feedback no	6	24.17	13.35	21.00	13.97	4	3.50	3.70	4.00	4.97
No video placebo									
Feedback yes	4	15.25	7.93	22.75	17.67	4	1.50	3.00	0.50	1.00
Feedback no	6	28.00	16.31	18.00	12.41	3	0.66	1.16	1.67	2.89

Note. The Ns are slightly different, as some subjects were given feedback in only one of the two divisions. Values are sums of 10 x rate per minute scores.

[a] Improvement is indicated by lower post than pre values.

[b] Improvement is indicated by higher post than pre values.

Table 10

Analyses of Variance on Facilitative Category Behaviors

Source	SS	DF	MS	F
	Positive behaviors frequent			
A (Gender)	3.4922	1	3.4922	0.0256
B (Video)	113.8750	3	37.9583	0.2784
C (Feedback)	302.6758	1	302.6758	2.2199
A x B	185.0664	3	61.6888	0.4524
A x C	392.3438	1	392.3438	2.8775
B x C	201.1211	3	67.0404	0.4917
A x B x C	235.8438	3	78.6146	0.5766
Error	8180.8398	60	136.3473	
D (Pre/Post)	270.7227	1	270.7227	2.5542
D x A	25.8750	1	25.8750	0.2441
D x B	96.7109	3	32.2370	0.3042
D x C	19.3906	1	19.3906	0.1830
D x A x B	134.7148	3	44.9049	0.4237
D x A x C	3.9258	1	3.9258	0.0370
D x B x C	110.2930	3	36.7643	0.3469
D x A x B x C	152.2695	3	50.7565	0.4789
Error	6359.4297	60	105.9905	
	Negative behaviors rare			
A (Gender)	7.0737	1	7.0737	0.2053
B (Video)	96.4678	3	32.1559	0.9331
C (Feedback)	0.0476	1	0.0476	0.0014
A x B	151.2266	3	50.4088	1.4627
A x C	32.3040	1	32.3040	0.9373
B x C	249.6069	3	83.2023	2.4142
A x B x C	52.2212	3	17.4071	0.5051
Error	1929.9424	56	34.4633	
D (Pre/Post)	49.6160	1	49.6160	4.6854*
D x A	0.0588	1	0.0588	0.0056
D x B	39.6467	3	13.2156	1.2480
D x C	4.1133	1	4.1133	0.3884
D x A x B	1.8296	3	0.6099	0.0576
D x A x C	1.5044	1	1.5044	0.1421
D x B x C	7.0139	3	2.3380	0.2208
D x A x B x C	5.8225	3	1.9408	0.1833
Error	593.0103	56	10.5895	

* $p < .05$.

Table 11

Analyses of Variance on Disruptive Category Behaviors

Source	SS	DF	MS	F
	Negative behaviors frequent			
A (Gender)	2025.422	1	2025.422	4.924*
B (Video)	1107.629	3	369.209	0.898
C (Feedback)	313.262	1	313.262	0.762
A x B	272.938	3	90.979	0.221
A x C	117.102	1	117.102	0.285
B x C	1153.500	3	384.500	0.935
A x B x C	1075.047	3	358.349	0.871
Error	29618.590	72	411.369	
D (Pre/Post)	410.652	1	410.652	5.662*
D x A	6.371	1	6.371	0.088
D x B	159.184	3	53.061	0.732
D x C	32.848	1	32.848	0.453
D x A x B	23.793	3	7.931	0.109
D x A x C	0.297	1	0.297	0.004
D x B x C	501.504	3	167.168	2.305
D x A x B x C	459.855	3	153.285	2.114
Error	5221.930	72	72.527	
	Positive behaviors rare			
A (Gender)	0.358	1	0.358	0.017
B (Video)	45.653	3	15.218	0.714
C (Feedback)	0.002	1	0.002	0.000
A x B	8.303	3	2.768	0.130
A x C	4.119	1	4.119	0.193
B x C	6.043	3	2.014	0.094
A x B x C	86.673	3	28.891	1.355
Error	1194.049	56	21.322	
D (Pre/Post)	13.111	1	13.111	4.421*
D x A	1.858	1	1.858	0.627
D x B	12.652	3	4.217	1.422
D x C	13.928	1	13.928	4.696*
D x A x B	0.598	3	0.199	0.067
D x A x C	0.005	1	0.005	0.002
D x B x C	6.071	3	2.024	0.682
D x A x B x C	4.434	3	1.478	0.498
D (C_1)	0.016	1	0.016	0.005
D (C_2)	31.265	1	31.265	10.541**
Error	166.092	56	2.966	

* $p < .05$.
** $p < .01$.

As in the previous analyses frequencies with different means and standard deviations were summed in each division, the same four ANOVA comparisons also were made using standard (z) scores. Only significant D (Pre/Post) main effects were found: one in the Positive Behaviors Frequent division [$F(1,60)=4.185$, $p<.05$], indicating that subjects emitted fewer positive behaviors on the post-test than on the pre-test, and one in the Negative Behaviors Frequent division [$F(1,72)=4.136$, $p<.05$], also indicating lower frequencies at post-testing than at pre-testing. No other significant main effects or interactions were found using the z score data.

Only one pertinent significant relationship was found in the above analyses on behaviors targeted for treatment, and even this one disappeared when a z score transformation was made; all other significant main effects concerned means which were summed over experimental groups. These results suggest that video playback and instructional verbal feedback were not effective in altering behaviors targeted for treatment.

Relationships between Productive and Counterproductive behaviors. Correlations between hubands' and wives' pre- and post-test Productive and Counterproductive category rate per minute scores were computed. Inspection of the Pearson product-moment correlation coefficients in Table 12 indicates that the strongest relationships obtained are those between pre- and post-test Productive behaviors and those between pre- and post-test Counterproductive behaviors. The Productive behaviors of husbands and wives are also highly correlated, as are their Counterproductive ones. However, there appears to be no significant relationship between Productive and Counterproductive behaviors. This is true both for husbands and for wives, as well as between spouses.

Table 12

Pearson Product-Moment Correlation Coefficients: Relationships Between Productive and Counterproductive Category Behaviors

	Males				Females			
	Pre		Post		Pre		Post	
Variables	Prod.	Counter.	Prod.	Counter.	Prod.	Counter.	Prod.	Counter.
Males								
Pre-test								
Productive	-.087	+.479***	+.057		+.229†	-.172	+.273*	-.091
Counterproductive		+.075	+.641***		+.106	+.497***	+.048	+.489***
Post-test								
Productive			-.070		+.182	-.069	+.471***	-.181
Counterproductive					-.022	+.463***	+.129	+.532***
Females								
Pre-test								
Productive						-.212†	+.306*	-.109
Counterproductive							-.039	+.715***
Post-test								
Productive								-.231†
Counterproductive								

Note. df = 94. Correlations are based on rate per minute scores.

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Perceptions

Own and spouse's typical behaviors.- To assess differences between perceptions of the typical behaviors of oneself and one's spouse, subjects' Self Rating Scale and Spouse Rating Scale scores were each summed. Negative items were reversed so that a higher sum indicates a more favorable evaluation. Preliminary analyses revealed no significant sex differences, so the scores were analyzed using a 1-way (repeated measures) ANOVA comparison [2 (Self/Spouse)]. The means and standard deviations for this analysis are presented in Table 13 and the results in Table 14.

Table 13

Means and Standard Deviations of Self and Spouse Perceptions During Typical Disagreements

	Object of Rating			
	Self		Spouse	
Group[a]	M	SD	M	SD
Whole sample	76.521	15.038	63.594	22.497

Note. The higher the value, the more positive the evaluation. 144 is the highest possible score.

[a] $n = 96$ for the whole sample.

Table 14

Analysis of Variance on Self and Spouse Perceptions During Typical Disagreements

Source	SS	DF	MS	F
A (Self/Spouse)	8021.0977	1	8021.0977	38.0753*
Error	20013.0859	95	210.6641	

* $p < .001$.

Subjects perceived their spouse as significantly less skilled than themselves at communication during typical disagreements [$F(1,95)=38.075$, $p < .001$]. Furthermore, the Self Rating scores of 69 subjects (72%) were higher than their Spouse Rating scores. Only 24 subjects (25%) evaluated themselves less favorably than they evaluated their partner, while 3 (3%) rated themselves and their partner as being equally skilled. When the three subjects whose Self Rating and Spouse Rating Scale scores were equal are excluded from consideration, only 50% of the remaining subjects would be expected to evaluate themselves more favorably than their spouse. A X^2 test of goodness-of-fit indicates that the observed frequencies are significantly different from those expected by chance [$X^2(1)=21.77$, $p < .001$].

Effects of video viewing on self and spouse perceptions. It was hypothesized that video viewing would affect perceptions of one's own and of one's spouse's communication skills. To assess pre-video to post-video changes in perceptions as a function of viewing condition, a 4-way (2 between-groups, 2 repeated measures) ANOVA comparison [2 (Gender) x 4 (Video) x 2 (Self/Spouse) x 2 (Before/After)] was made. Means and standard deviations used in this analysis are presented in Table 15, and the results in Table 16.

Table 15

Means and Standard Deviations of Self and Spouse Perceptions Before and After Video Viewing

	Object of Rating							
	Self				Spouse			
	Before		After		Before		After	
Group[a]	M	SD	M	SD	M	SD	M	SD
Video self								
Males	83.67	18.25	85.92	18.47	79.08	26.29	75.75	25.57
Females	77.17	19.35	72.92	18.53	74.92	27.65	75.17	25.04
Video spouse								
Males	72.25	18.60	74.83	22.10	71.83	15.74	63.08	14.78
Females	69.17	19.40	70.58	17.89	64.50	24.67	64.33	24.54
Video both								
Males	85.08	14.95	85.00	17.06	75.50	26.36	69.50	26.06
Females	77.33	12.95	79.58	15.76	73.25	23.99	73.92	25.06
No video placebo								
Males	82.50	18.29	84.17	17.73	75.33	24.80	78.25	25.23
Females	77.83	20.43	75.00	21.52	75.17	25.47	72.67	26.53

Note. The higher the score the more favorable the evaluation. Maximum score is 144.

[a] $n = 12$ for each group.

Table 16

Analysis of Variance on Self and Spouse Perceptions Before and After Video Viewing

Source	SS	DF	MS	F
A (Gender)	1746.6875	1	1746.6875	1.2405
B (Video)	5689.3750	3	1896.4583	1.3469
A x B	162.0000	3	54.0000	0.0384
Error	123904.937	88	1408.0105	
C (Self/Spouse)	3088.2930	1	3088.2930	9.1620*
C x A	582.6133	1	582.6133	1.7284
C x B	347.8047	3	115.9349	0.3439
C x A x B	196.7266	3	65.5755	0.1945
Error	29662.5742	88	337.0747	
D (Before/After)	72.6250	1	72.6250	1.1152
D x A	4.8125	1	4.8125	0.0739
D x B	18.2734	3	6.0912	0.0935
D x A x B	359.4531	3	119.8177	1.8398
Error	5731.0078	88	65.1251	
C x D	148.7500	1	148.7500	2.3994
C x D x A	202.7070	1	202.7070	3.2698
C x D x B	191.3945	3	63.7982	1.0291
C x D x A x B	121.8164	3	40.6055	0.6550
Error	5455.5039	88	61.9944	

* $p < .01$.

Only a significant C (Self/Spouse) main effect was found [$F(1,88)=9.162$, $p<.01$], indicating that subjects evaluated their own behaviors during the discussions more favorably than those of their partner. This finding replicates, in a different context, the results found when perceptions of typical disagreements were examined.

Specific hypotheses were made concerning differences between self-viewing and spouse-viewing subjects, as well as between those who viewed themselves as a couple and those who received the No Video Placebo treatment. Post hoc tests comparing two video groups at a time were made; no significant main effects or interactions were found.

Effects of video viewing on perceptual accuracy. In order to assess the effects of video viewing on perceptual accuracy, subjects' before and after video Self Rating of Discussion and Spouse Rating of Discussion questionnaire scores were subtracted from their own and their partner's Marital Interaction Rating Scale (MIRS) scores. (The MIRS was completed by trained observers and is identical to the questionnaires completed by the subjects, except for modifications necessary to enable coders to answer the questions concerning the husband's and the wife's behaviors.) These difference scores were analyzed in a 4-way (2 between-groups, 2 repeated measures) ANOVA comparison [2 (Gender) x 4 (Video) x 2 (Self/Spouse) x 2 (Before/After)]. The means and standard deviations of these difference scores are presented in Table 17 and the results of the analysis in Table 18.

There were no significant interactions. Only a significant C (Self/Spouse) main effect was found [$F(1,88)=8.265$, $p<.01$], indicating that subjects rated their partner's communication skills more accurately than their own. However, this difference appears to be artifactual as it may reflect elevation in response set(Cronbach, 1955; Triandis, 1977); ratings made by the trained

Table 17

Means and Standard Deviations of Perceptual Accuracy Scores Before and After Video Viewing

Group[a]	Object of Rating: Self, Before M	Self, Before SD	Self, After M	Self, After SD	Spouse, Before M	Spouse, Before SD	Spouse, After M	Spouse, After SD
Video self								
Males	-19.50	16.94	-19.25	20.06	-19.33	26.83	-16.00	27.40
Females	-17.42	17.52	-13.17	19.19	- 8.25	27.75	- 8.50	26.09
Video spouse								
Males	- 5.75	15.89	- 8.33	17.75	-13.83	18.17	- 5.08	16.62
Females	-11.17	21.68	-12.58	19.84	2.00	20.88	2.17	21.08
Video both								
Males	-15.33	10.82	-17.33	14.62	-15.17	22.20	- 6.50	24.57
Females	-15.25	14.00	-17.50	13.64	- 4.67	20.39	- 5.33	21.30
No video placebo								
Males	-15.83	19.11	-17.50	16.90	- 6.42	24.19	- 9.33	24.83
Females	- 8.92	18.12	- 6.08	20.09	- 8.50	25.22	- 6.00	26.83

Note. Scores are the difference between observers' and subjects' ratings of communication effectiveness. The smaller the absolute discrepancy, the higher the accuracy. A negative sign indicates that subjects' ratings were more favorable than observers', while a positive sign indicates that observers' ratings were more favorable.

[a] $n = 12$ for each group.

Table 18

Analysis of Variance on Perceptual Accuracy Scores Before and After Video Viewing

Source	SS	DF	MS	F
A (Gender)	1908.1250	1	1908.1250	1.5798
B (Video)	3811.1250	3	1270.3750	1.0518
A x B	211.5625	3	70.5208	0.0584
Error	106291.000	88	1207.8521	
C (Self/Spouse)	3185.4375	1	3185.4375	8.2653*
C x A	536.7578	1	536.7578	1.3927
C x B	259.1875	3	86.3958	0.2242
C x A x B	1879.6602	3	626.5532	1.6257
Error	33915.1250	88	385.3989	
D (Before/After)	108.3711	1	108.3711	1.6554
D x A	16.6641	1	16.6641	0.2546
D x B	36.0820	3	12.0273	0.1837
D x A x B	351.3672	3	117.1224	1.7891
Error	5760.9141	88	65.4649	
C x D	184.2578	1	184.2578	2.6650
C x D x A	243.8398	1	243.8398	3.5267
C x D x B	297.8516	3	99.2838	1.4360
C x D x A x B	110.0234	3	36.6745	0.5304
Error	6084.3945	88	69.1408	

* $p < .01$.

observers were generally lower than those made by subjects, while subjects' ratings of their spouse were also generally less favorable than their evaluations of themselves. The effects of gender, video and feedback on perceptual accuracy after the second discussion also were examined. Again, only a significant Self/Spouse main effect was found [$F(1,80)=7.739$, $p < .01$].

Relationships between perceptions and behaviors. Table 19 summarizes the Pearson product-moment correlation coefficients obtained when subjects' communication skills during the first discussion were evaluated a) by themselves (on the Self Rating of Discussion), b) by their spouse (on the Spouse Rating of Discussion), c) by trained observers [on the Marital Interaction Rating Scale (MIRS)] , and d) by trained observers using the MMICS coding system. As is evident from Table 19, the highest correlations were found between observers' ratings on two different measures. Observer ratings based on the MIRS correlate positively with Productive category MMICS scores [Males: $r(94)=+.564$, $p < .001$; Females: $r(94)=+548$, $p < .001$] and negatively with Counterproductive category MMICS scores [Males: $r(94)=-.612$, $p < .001$; Females: $r(94)=-.687$, $p < .001$]. These significant correlations indicate that the single value obtained on the MIRS is closely related to both the Productive and the Counterproductive MMICS category scores.

Although these relationships are somewhat weaker, the ratings of one's own communication skills and the ratings of these skills by one's spouse are also significantly correlated [Males: $r(94)=+.305$, $p < .05$; Females: $r(94)=+.333$, $p < .01$]. Subjects' and observers' ratings of the same behaviors appear to be independent.

Table 19

Pearson Product-Moment Correlation Coefficients:

Relationships Between Perceptions and Behaviors

Ratings[a]	Ratings[a]			
			MMICS	
	By Spouses	By Observers	Productive	Counterproductive
Ratings of Self by				
Males	+.305*	+.230	+.258*	+.029
Females	+.333**	+.079	-.085	+.055
Ratings by Spouses of				
Males		+.153	+.197	+.054
Females		+.062	+.152	-.045
Ratings by Observers of				
Males			+.564***	-.612***
Females			+.548***	-.687***

Note. df=94. All scores used in computing correlation coefficients were based on the first discussion.

[a]Values used in computing correlation coefficients were 10 x rate per minute for the MMICS, and summed Self Rating, Spouse Rating, and Marital Interaction Rating Scale scores.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Relationships between self and spouse perceptions. Correlations were computed between subjects' ratings of behaviors during typical disagreements at home and of behaviors during the pre-test 10 minute discussion in the laboratory. The Pearson product-moment correlation coefficients indicate that self perceptions [$r(190)=+.305$, $p<.01$] and spouse perceptions [$r(190)=+.493$, $p<.001$] are significantly correlated. The relationships between subjects' ratings of behaviors during typical disagreements 6 months apart also were examined. Subjects' perceptions of their own communication skills, obtained during the orientation phase of the study (Self Rating Scale), correlate significantly with their perceptions 6 months later (Self Rating at Follow-Up) [$r(96)=+.429$, $p<.001$]; this is also true of subjects' perceptions of their spouse's skills, which appear to be even more consistent across time [$r(96)=+.679$, $p<.001$].

Attributions

Trait attributions. In order to test predictions concerning self/other and self-serving biases in trait attributions, the number and social desirability of traits assigned to oneself and to one's spouse on the Checklists of Personality Traits Influencing Arguments were analyzed using 3-way (1 between-groups, 2 repeated measures) ANOVA comparisons [2 (Gender) x 2 (Own/Spouse's) x 2 (Causing/Preventing arguments)].

Table E.12 (Appendix E) presents the means and standard deviations of the number of favorable and unfavorable traits assigned to oneself and to one's partner, while Table E.13 details the results of the analysis. Although there was a tendency for subjects to choose more traits which prevent arguments

than traits which cause them [$F(1,94)=3.863$, $p < .06$], there were no significant main effects or interactions in this comparison.

The sums of the social desirability ratings of those five traits which subjects judged to be most important on each of the four checklists (Own Traits Causing, Own Traits Preventing, Spouse's Traits Causing, Spouse's Traits Preventing Arguments) also were examined. The social desirability values of the traits used are based on Anderson's (1968) findings, and are detailed in Appendix A. Thirteen subjects had to be dropped from this analysis due to missing data. The means and standard deviations of the social desirability ratings appear in Table 20 and the test results in Table 21. Pooled error terms and a Satterthwaite approximation to the degrees of freedom were used when testing simple effects (Winer, 1971).

Table 20

Means and Standard Deviations of Social Desirability Ratings of Traits Influencing Arguments

		Object of Rating							
		Own				Spouse's			
		Causing		Preventing		Causing		Preventing	
Group	n[a]	M	SD	M	SD	M	SD	M	SD
Males	40	900.78	97.76	2280.70	139.97	883.98	119.69	2337.35	167.75
Females	43	898.51	101.93	2336.40	150.19	840.77	100.97	2330.58	153.45

Note. Values are based on the sum of the five traits rated most important in each category. The larger the score, the more socially desirable the trait.

[a]The ns are slightly different as some subjects had to be dropped due to missing data.

Table 21

Analysis of Variance on Social Desirability Ratings of Traits Influencing Arguments

Source	SS	DF	MS	F
A (Gender)	61.000	1	61.000	0.004
Error	1390829.000	81	17170.727	
B (Own/Spouse's)	2911.000	1	2911.000	0.185
B x A	55398.000	1	55398.000	3.521
Error	1274551.000	81	15735.195	
C (Cause/Prevent)	171943408.000	1	171943408.000	6496.094***
C x A	46164.000	1	46164.000	1.744
Error	2143967.000	81	26468.727	
B x C	81441.938	1	81441.938	8.413**
B x C x A	2399.063	1	2399.063	0.248
Error	784078.187	81	9679.977	
B (C_1)	59963.900	1	59963.900	4.719*
B (C_2)	24483.300	1	24483.300	1.927
Error	—	153	12707.588	

Note. Pooled error terms and a Satterthwaite approximation to the degrees of freedom were used when testing simple effects (Winer, 1971).

* $p < .05$.

** $p < .01$.

*** $p < .001$.

As expected, the traits which prevent arguments are more socially desirable than those which cause them [$F(1,81)=6496.094$, $p < .001$]. A significant B x C [(Own/Spouse's) x (Cause/Prevent)] interaction also was found [$F(1,81)= 8.413$, $p < .01$]; this interaction can be seen clearly in Figure 8. Tests of simple effects performed on the B factor in each level of C showed a significant difference only in C_1 (Cause). The means indicate that one's own negative traits are more socially desirable than one's spouse's negative traits [$F(1,153)=4.719$, $p < .05$].

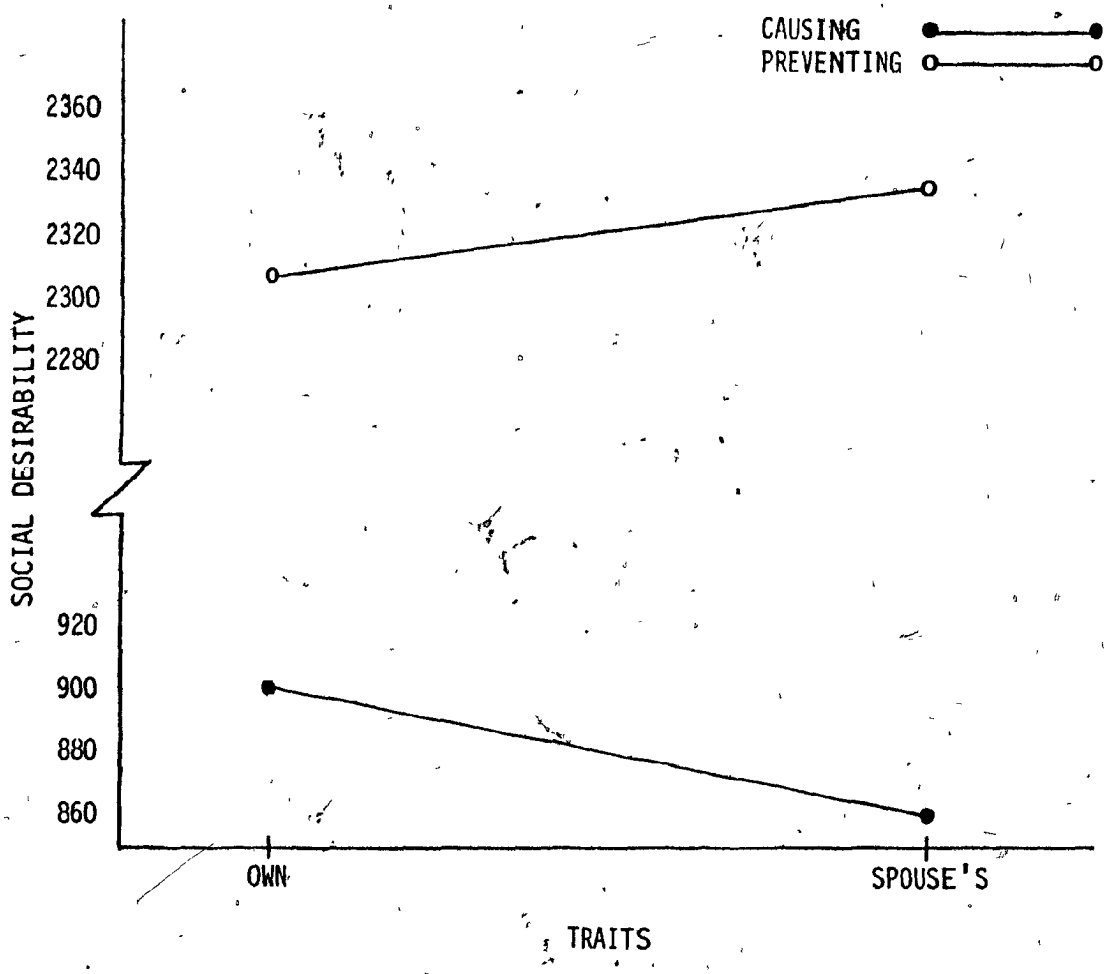

Figure 8. Social desirability ratings of own and spouse's traits influencing arguments. The larger the score, the more socially desirable the trait.

Causal attributions for own and spouse's behaviors. To test the self/other aspect of the Jones and Nisbett (1972) hypothesis, subjects' attributions about the causes of their own and their spouse's behaviors during typical disagreements were examined. The importance of three types of causal attributions were evaluated by subjects: a) personality of the Emitter of the behavior, b) personality of the Other person (spouse of the emitter) and c) nature of the Topic.

In order to examine the possibility of self-serving bias (Bradley, 1978; D. Miller & Ross, 1975), subjects' attributions concerning the causes of their own and their spouse's Facilitative and Disruptive behaviors were considered separately; this was done by collapsing each 10-point perception of behavior item on the Self and Spouse Rating Scales into binary form. Frequent positive behaviors and rare negative ones were both considered to be Facilitative. Conversely, frequent negative and rare positive behaviors were both considered to be Disruptive. The importance ratings of each of the three causal attribution items following all Facilitative ratings were averaged on the Self and on the Spouse Rating Scales, and constituted the three causal attribution scores for one's own and for one's spouse's Facilitative behaviors. Causal attribution scores for Disruptive behaviors were computed in the same way. The means and standard deviations of these causal attribution scores are presented in Table 22. The higher the score, the greater the importance of the causal attribution indicated.

A 4-way (1 between-groups, 3 repeated measures) ANOVA comparison [2 (Gender) x 2 (Own/Spouse's) x 2 (Facilitative/Disruptive) x 3 (Attribution)] was made on these scores. The results of this analysis are presented in Table 23. Conservative degrees of freedom were used in reporting p values whenever a within-cell source of variation was tested (Winer, 1971).

A significant A (Gender) main effect [$F(1,93)=6.104$, $p < .05$] indicates sex differences in response bias, with females making higher ratings than males. A significant D (Attribution) main effect also was found [F(conservative 1,93)= 71.305, $p < .001$]. The Tukey hsd test was used to examine differences between the means of attributions to the Emitter of behavior, the Other person, and the nature of the Topic. Q values ($K=3$, $df=186$) can be found in Table 24. Test

Table 22

Means and Standard Deviations of Causal Attributions

	Behaviors							
	Own				Spouse's			
	Facilitative		Disruptive		Facilitative		Disruptive	
Attributions to	M	SD	M	SD	M	SD	M	SD
Personality of Emitter by								
Males[a]	6.96	1.26	6.93	1.32	6.98	1.24	7.31	1.16
Females[b]	7.16	1.17	7.02	1.62	7.16	1.28	7.49	1.16
Personality of Other by								
Males	5.66	1.63	5.57	1.77	4.89	1.97	5.38	1.45
Females	6.22	1.33	6.14	1.56	6.02	1.57	5.97	1.57
Nature of Topic by								
Males	4.59	2.14	4.77	1.99	4.87	2.16	4.49	2.14
Females	5.07	1.96	5.51	2.06	4.94	1.82	4.92	2.19

Note. The higher the score the greater the importance of the attribution. Maximun score = 9.

[a] $n = 47$. One subject was dropped due to missing data.

[b] $n = 48$.

Table 23

Analysis of Variance on Causal Attributions

Source	SS	DF	MS	F
A (Gender)	53.694	1	53.694	6.104*
Error	818.126	93	8.797	
B (Own/Spouse's)	2.722	1	2.722	1.473
B x A	0.009	1	0.009	0.005
Error	171.910	93	1.848	
C (Facil./Disrupt.)	1.802	1	1.802	1.517
C x A	0.000	1	0.000	0.000
Error	110.506	93	1.188	
B x C	0.346	1	0.346	0.342
B x C x A	0.270	1	0.270	0.267
Error	94.038	93	1.011	
D (Attribution)	965.606	2	482.803	71.305***
D x A	14.327	2	7.164	1.058
Error	1259.398	186	6.771	
B x D	15.331	2	7.666	4.381*
B x D x A	5.216	2	2.608	1.490
Error	325.480	186	1.750	
C x D	0.259	2	0.130	0.123
C x D x A	3.905	2	1.953	1.855
Error	195.793	186	1.053	
B x C x D	12.117	2	6.058	5.910*
B x C x D x A	1.668	2	0.834	0.813
Error	190.678	186	1.025	
B (D_1)	4.514	1	4.514	2.532
B (D_2)	10.472	1	10.472	5.873*
B (D_3)	3.042	1	3.042	1.706
Error		279	1.783	
B x C (D_1)	4.150	1	4.150	4.068*
B x C (D_2)	2.109	1	2.109	2.068
B x C (D_3)	6.177	1	6.177	6.056*
Error	—	273	1.020	
B (C_1D_1)	0.004	1	0.004	0.003
B (C_2D_1)	8.661	1	8.661	6.662*
B (C_1D_3)	0.274	1	0.274	0.211
B (C_2D_3)	8.947	1	8.947	6.882**
Error	—	256	1.300	

Note. Conservative degrees of freedom were used in reporting p values whenever a within-cell source of variation was tested (Winer, 1971).

* $p < .05$.

** $p < .01$.

*** $p < .001$.

results show that attributions to the Emitter are higher than to the Other ($p < .01$), which, in turn, is higher than attributions to the Topic ($p < .05$).

Table 24

Q Values for Object of Attribution Comparison

	Object of Attributions	
Object of Attribution	Other	Emitter
Topic	3.143*	8.353**
Other		5.210**

Note. df = 186.

* $p < .05$.
** $p < .01$.

Significant B x D [(Own/Spouse's) x (Attribution)] [F(conservative 1,93)= 4.381, $p < .05$] and B x C x D [(Own/ Spouse's) x (Facilitative/Disruptive) x (Attribution)] [F(conservative 1,93)=5.910, $p < .05$] interactions were found as well. The means for these are presented in Figures 9 and 10, respectively.

Inspection of the B x D interaction means in Figure 9 suggests that subjects are relatively more likely to make external attributions [caused by the spouse's personality (Other) and the nature of the Topic] for their own behaviors and internal attributions [caused by the spouse's personality (Emitter)] for their partner's behaviors. Tests of simple effects were performed on this interaction; examination of the B (Own/Spouse's) means in each level of D (Attribution) shows a significant difference only in D_2 (Attribution to Other) [F(1,279)=5.873, $p < .05$]. This difference indicates that subjects

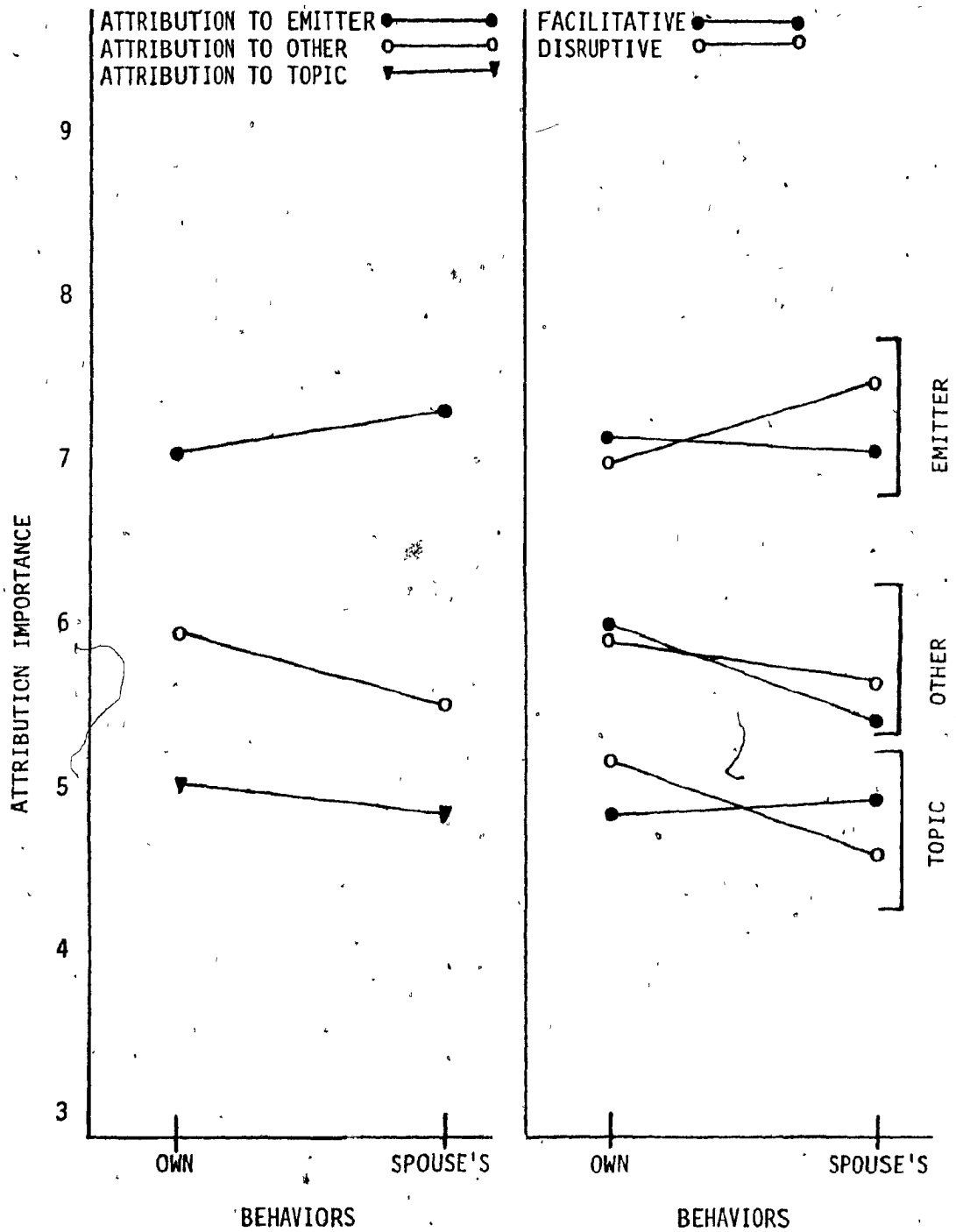

Figure 9. Causal attributions as a function of own and spouse's behaviors.

Figure 10. Causal attributions as a function of own and spouse's Facilitative and Disruptive behaviors.

are more likely to attribute their own behavior to the personality of their mate than they are to attribute their spouse's behavior to their own personality.

The significant 3-way interaction of B x C x D, presented in Figure 10, was broken down into simple interactions. Tests on the B x C means in each level of D were made. Results in the 1st and 3rd level of D show significant differences. In D_1 (Attribution to Emitter), inspection of the significant B x C interaction [$F(1,273)=4.068$, $p<.05$] means suggests that subjects were relatively more likely to make Emitter attributions for their spouse's Disruptive behaviors and their own Facilitative ones. Tests of simple effects on this 2-way interaction show a significant difference between Emitter attributions for Disruptive behaviors only [$F(1,256)=6.662$, $p<.05$], with subjects making more Emitter attributions for their spouse's Disruptive behaviors than for their own. In the 3rd level of D (Attribution to Topic), inspection of the significant B x C interaction [$F(1,273)=6.056$, $p<.05$] means suggests that subjects were relatively more likely to make external Topic attributions for their own Disruptive and their spouse's Facilitative behaviors. Tests of simple effects on this interaction show a significant difference between subjects' Topic attributions for Disruptive behaviors only, with subjects making more Topic attributions for their own Disruptive behaviors than for those of their spouse [$F(1,256)=6.882$, $p<.001$].

One of the questions this study attempted to answer concerns the relative importance of internal and external attributions for one's own and for one's spouse's behaviors. Therefore, two types of internal: external attribution proportions were computed for both one's own and one's partner's Facilitative and Disruptive behaviors; these are Emitter : Topic and Emitter : Other.

Each of these two sets of proportions was analyzed in 3-way (1 between-groups, 2 repeated measures) ANOVA comparisons [2 (Gender) x 2 (Own/Spouse's) x 2 (Facilitative/Disruptive)]. The means and standard deviations of the Emitter : Topic attribution proportions are presented in Table 25, the results of the analysis in Table 26.

Table 25

Means and Standard Deviations of

Emitter:Topic Attribution Proportions

	Behaviors			
	Facilitative		Disruptive	
Attribution for	M	SD	M	SD
Own behaviors by	(1.710)		(1.530)	
Males[a]	1.846	1.565	1.658	1.091
Females[b]	1.577	0.903	1.406	0.664
Spouse's behaviors by	(1.618)		(1.834)	
Males	1.700	1.259	1.915	1.312
Females	1.538	0.697	1.756	1.093

Note. The higher the score the more internal the attribution. Numbers in brackets are group means.

[a] n = 47. One subject was dropped due to missing data.

[b] n = 48.

Table 26

Analysis of Variance on Emitter:Topic Attribution Proportions

Source	SS	DF	MS	F
A (Gender)	4.209	1	4.209	1.279
Error	306.178	93	3.292	
B (Own/Spouse's)	1.057	1	1.057	1.510
B x A	0.237	1	0.237	0.339
Error	65.106	93	0.700	
C (Facil./Disrupt.)	0.032	1	0.032	0.072
C x A	0.002	1	0.002	0.005
Error	41.748	93	0.449	
B x C	3.727	1	3.727	7.794**
B x C x A	0.001	1	0.001	0.003
Error	44.466	93	0.478	
C (B_1)	1.539	1	1.539	3.317+
C (B_2)	2.215	1	2.215	4.774*
Error	—	186	0.464	

+ $p < .10$.

* $p < .05$.

** $p < .01$.

The ANOVA results for the Emitter : Topic attribution proportions show a significant B x C (Own/Spouse's x Facilitative/Disruptive) interaction [$F(1,93) = 7.794$, $p < .01$]. The means of this interaction, graphed in Figure 11, show that subjects made relatively more internal attributions for their own Facilitative and their spouse's Disruptive behaviors. Tests of simple effects performed on the C means in each level of B show that in B_2 (Spouse's behavior) subjects made significantly more internal attributions for their spouse's Disruptive behaviors than they did for their spouse's Facilitative ones [$F(1,186) =$

4.774, $p < .05$]. In B_1 (Own behavior) there was a tendency for subjects to make more internal attributions for their own Facilitative behaviors than for their Disruptive ones [$F(1,186)=3.317$, $p < .10$].

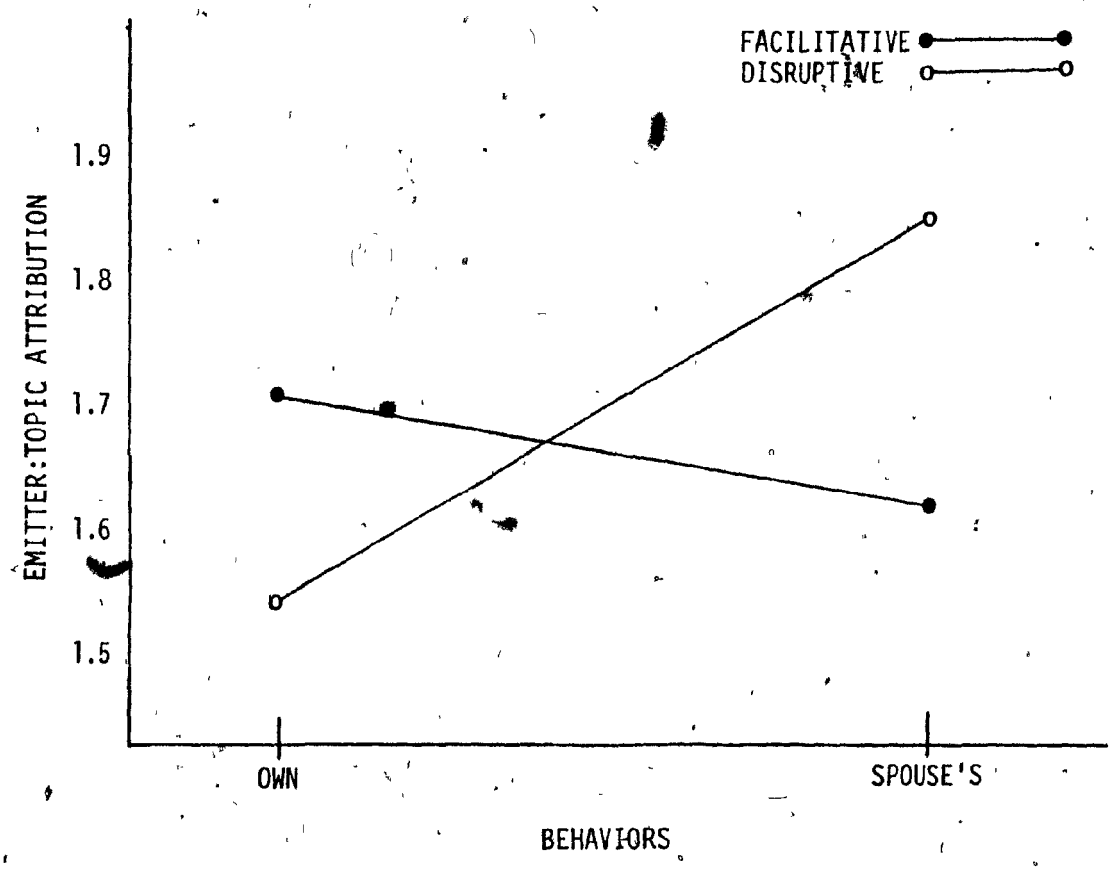

Figure 11. Emitter : Topic attribution proportions as a function of own and spouse's Facilitative and Disruptive behaviors. The higher the value, the more internal the attribution.

When the Emitter : Other proportions were examined (Table 27), the ANOVA test results presented in Table 28 show significant A (Gender) [$F(1,93)=6.901$, $p < .05$] and B (Own/Spouse's) [$F(1,93)=5.052$, $p < .05$] main effects. Inspection of the means in Table 27 indicates that males made more internal attributions than females and that subjects in general made more internal attributions

Table 27

Means and Standard Deviations of Emitter:Other Attribution Proportions

Attribution for	Behaviors: Facilitative M	Facilitative SD	Disruptive M	Disruptive SD
Own behaviors by	(1.230)		(1.256)	
Males[a]	1.292	0.503	1.332	0.580
Females[b]	1.170	0.310	1.181	0.387
Spouse's behaviors by	(1.435)		(1.333)	
Males	1.669	1.408	1.378	0.413
Females	1.205	0.273	1.289	0.407

Note. The higher the score the more internal the attribution. Numbers in brackets are group means.

[a] $n = 47$. One subject was dropped due to missing data.

[b] $n = 48$.

Table 28

Analysis of Variance on Emitter:Other Attribution Proportions

Source	SS	DF	MS	F
A (Gender)	4.04178	1	4.04178	6.90134*
Error	54.46553	93	0.58565	
B (Own/Spouse's)	1.90115	1	1.90115	5.05179*
B x A	0.46901	1	0.46901	1.24626
Error	34.99892	93	0.37633	
C (Facil./Disrupt.)	0.14438	1	0.14438	0.44397
C x A	0.70474	1	0.70474	2.16711
Error	30.24355	93	0.32520	
B x C	0.39561	1	0.39561	1.25841
B x C x A	0.96783	1	0.96783	3.07859
Error	29.23700	93	0.31438	

* $p < .05$.

concerning their spouse's behaviors than they made concerning their own. No other significant differences were found.

In summary, the results of the three analyses on causal attributions provide support both for the self/other aspect of the Jones and Nisbett hypothesis as well as for the proposition that self-serving biases affect the attribution process. The first analysis indicated that subjects tend to make relatively more external (Other, Topic) attributions for their own behavior and relatively more internal ones (Emitter) for their spouse's behavior. Subjects also were shown to make relatively more internal attributions for their spouse's Disruptive behaviors and for their own Facilitative ones, and relatively more external (Topic) attributions for their spouse's Facilitative and their own Disruptive behaviors. The second analysis indicated that subjects made relatively more internal (Emitter : Topic) attributions when considering their own Facilitative and their spouse's Disruptive behaviors. In the third analysis, subjects were shown to be more external (Emitter : Other) when considering their own behaviors (i.e., likely to attribute their own behaviors to their spouse's personality) than when considering their spouse's actions (i.e., to attribute their mate's behavior to their own personality).

Effects of video viewing on causal attributions. In order to examine the effects of videotape on causal attributions, subjects' inferences about the causes of their own and their spouse's Facilitative and Disruptive behaviors during the first discussion were assessed before and after video viewing. Attributions concerning Facilitative and Disruptive behaviors were calculated as described earlier. Subjects' pre-video attribution scores were subtracted from their post-video scores. A 5-way (2 between-groups, 3 repeated measures) ANOVA comparison [2 (Gender) x 4 (Video) x 2 (Own/Spouse's) x 2

(Facilitative/Disruptive) x 3 (Attributions)] was made on these change scores. Conservative degrees of freedom were used in reporting p values whenever a within-cell source of variation was tested. The means and standard deviations used in this analysis are presented in Table E.14. There were no significant differences (Table E.15).

As separate predictions were made concerning a) the effects of videotape on self- and on spouse-viewing subjects and b) the effects of videotape on those who viewed themselves as a couple and on those who received the No Video Placebo treatment, two ANOVA comparisons were made on attribution change scores. No significant main effects or interactions were found in either comparison.

Storms (1973) found significant videotape effects when he used a difference score he called "disposition-situation index" in data analysis, while he found no significant differences when he examined dispositional or situational attributions. Therefore, the effects of videotape on the two attribution proportion change scores (Emitter : Topic and Emitter : Other) also were studied in a posteriori tests. Four-way (2 between-groups, 2 repeated measures) ANOVA comparisons [2 (Gender) x 4 (Video) x 2 (Own/Spouse's) x 2 (Facilitative/Disruptive)] were made using change scores. No significant main effects or interactions including the Video (B) factor were found in either analysis.

Effects of video viewing on attributions of control. In order to assess changes caused by videotape in attributions concerning one's own and one's spouse's role in determining the atmosphere during the first discussion, subjects' attributions of control to themselves and to their partner were measured before and after the videotape intervention. A 4-way (2 between-groups, 2 repeated measures) ANOVA comparison [2 (Gender) x 4 (Video) x 2 (Self/Spouse) x 2 (Pre/Post Video)] was made. The means and standard deviations used in this analysis appear in

Table 29 and the results in Table 30. Only a significant C (Self/Spouse) main effect was found; this indicates that one's spouse was seen as more controlling than oneself [$F(1,88)=9.665$, $p< .01$].

Table 29

Means and Standard Deviations of Attributions of Control

	Self				Spouse			
	Pre		Post		Pre		Post	
Group[a]	M	SD	M	SD	M	SD	M	SD
Males								
Video self	5.750	1.712	4.917	2.644	6.583	2.644	7.250	1.357
Video spouse	7.167	1.403	6.667	2.309	7.333	1.231	7.250	2.051
Video both	6.333	1.723	6.833	0.937	7.333	1.614	7.667	0.985
No video placebo	6.583	1.564	6.000	1.537	7.250	1.765	6.583	2.314
Females								
Video self	6.667	2.535	6.667	2.309	6.750	2.768	5.833	3.157
Video spouse	6.917	1.443	6.250	2.261	8.167	0.835	6.667	2.060
Video both	6.667	2.146	7.750	1.357	7.500	1.508	7.667	1.231
No video placebo	6.500	2.611	7.250	1.765	7.250	2.667	7.667	1.670

Note. The higher the value, the greater the attribution of control. 0=completely unimportant, 9=very important.

[a] n = 12 for each group.

Table 30

Analysis of Variance on Attributions of Control

Source	SS	DF	MS	F
A (Gender)	8.1665	1	8.1665	1.2165
B (Video)	45.8320	3	15.2773	2.2758
A x B	5.7078	3	1.9026	0.2834
Error	590.7441	88	6.7130	
C (Self/Spouse)	36.2600	1	36.2600	9.6646*
C x A	6.5100	1	6.5100	1.7352
C x B	0.0310	3	0.0103	0.0028
C x A x B	19.5305	3	6.5102	1.7352
Error	330.1626	88	3.7519	
D (Pre/Post)	1.2604	1	1.2604	0.4694
D x A	0.0937	1	0.0937	0.0349
D x B	18.3643	3	6.1214	2.2801
D x A x B	13.5311	3	4.5104	1.6800
Error	236.2479	88	2.6846	
C x D	0.6667	1	0.6667	0.2825
C x D x A	8.1665	1	8.1665	3.4606
C x D x B	2.1250	3	0.7083	0.3002
C x D x A x B	3.8749	3	1.2916	0.5473
Error	207.6662	88	2.3598	

* $p < .01$.

Since specific hypotheses were made about changes in attributions of control in the Video Self and in the Video Spouse conditions, the data for these two groups were analyzed separately. Again, there were no significant differences.

Effects of video viewing on feedback accuracy judgments. It was hypothesized that video viewing would affect subjects' judgments concerning the accuracy of verbal feedback given them. To test this hypothesis, subjects' assessments of accuracy on the Evaluations of Husband's and Wife's Communication Skills were averaged across codes in each of the four feedback divisions. Sub-

jects' judgments concerning the accuracy of the feedback given to them and their spouse were computed separately. As some subjects received feedback in only two or three of the four feedback divisions, four 3-way (2 between-groups, 1 repeated measure) ANOVA comparisons [2 (Gender) x 4 (Video) x 2 (Self/Spouse)] were made. No significant main effects or interactions were found on any of these comparisons.

In order to make comparisons between the Facilitative and Disruptive feedback categories, the two divisions of each category were combined. As all subjects received feedback in both these categories, and since no sex differences were found in the previous analyses, one 3-way (1 between-groups, 2 repeated measures) ANOVA comparison [4 (Video) x 2 (Self/Spouse) x 2 (Facilitative/Disruptive)] was made on category means. Tables 31 and 32 present the means and the results, respectively.

A significant C (Facilitative/Disruptive) main effect [$F(1,44)=8.305$, $p < .01$] indicates that subjects judged Facilitative feedback items to be more accurate than Disruptive feedback items. The A x C (Video x Facilitative/Disruptive) interaction, illustrated in Figure 12, was also significant [$F(3,44)=3.654$, $p < .05$]. Tests of simple effects were performed on this interaction in each level of A (Video). Results of these tests indicate that Facilitative feedback items were judged more accurate than Disruptive feedback items in A_1 (Video Self) [$F(1,44)=11.938$, $p < .001$] and in A_4 (No Video Placebo) [$F(1,44)=4.912$, $p < .05$], while no significant differences were found in any other level of A.

Table 31

Means and Standard Deviations of Feedback Accuracy Judgments

	Category			
	Facilitative		Disruptive	
Group[a]	M	SD	M	SD
Video self				
Self	8.500	1.025	6.979	1.737
Spouse	8.486	1.808	6.882	1.858
Video spouse				
Self	7.942	1.962	8.035	1.790
Spouse	7.625	2.385	8.500	1.706
Video both				
Self	8.431	1.302	7.462	1.858
Spouse	8.014	1.624	7.897	1.805
No video placebo				
Self	8.528	1.396	7.681	2.123
Spouse	8.736	1.143	7.611	2.080

Note. The larger the number the higher the accuracy rating, 1 = very inaccurate 10 = very accurate.

[a] $n = 6$ for each group.

Table 32

Analysis of Variance on Feedback Accuracy Judgments

Source	SS	DF	MS	F
A (Video)	4.699	3	1.566	0.234
Error	294.998	44	6.705	
B (Self/Spouse)	0.028	1	0.028	0.018
B x A	0.134	3	0.045	0.028
Error	70.109	44	1.593	
C (Facil./Disrupt.)	20.393	1	20.393	8.305**
C x A	26.918	3	8.973	3.654*
Error	108.048	44	2.456	
B x C	1.214	1	1.214	0.741
B x C x A	3.047	3	1.016	0.620
Error	72.094	44	1.638	
C (A_1)	29.316	1	29.316	11.938**
C (A_2)	2.812	1	2.812	1.145
C (A_3)	3.538	1	3.538	1.568
C (A_4)	11.082	1	11.082	4.912*
Error	108.048	44	2.456	

* $p < .05$.

** $p < .01$.

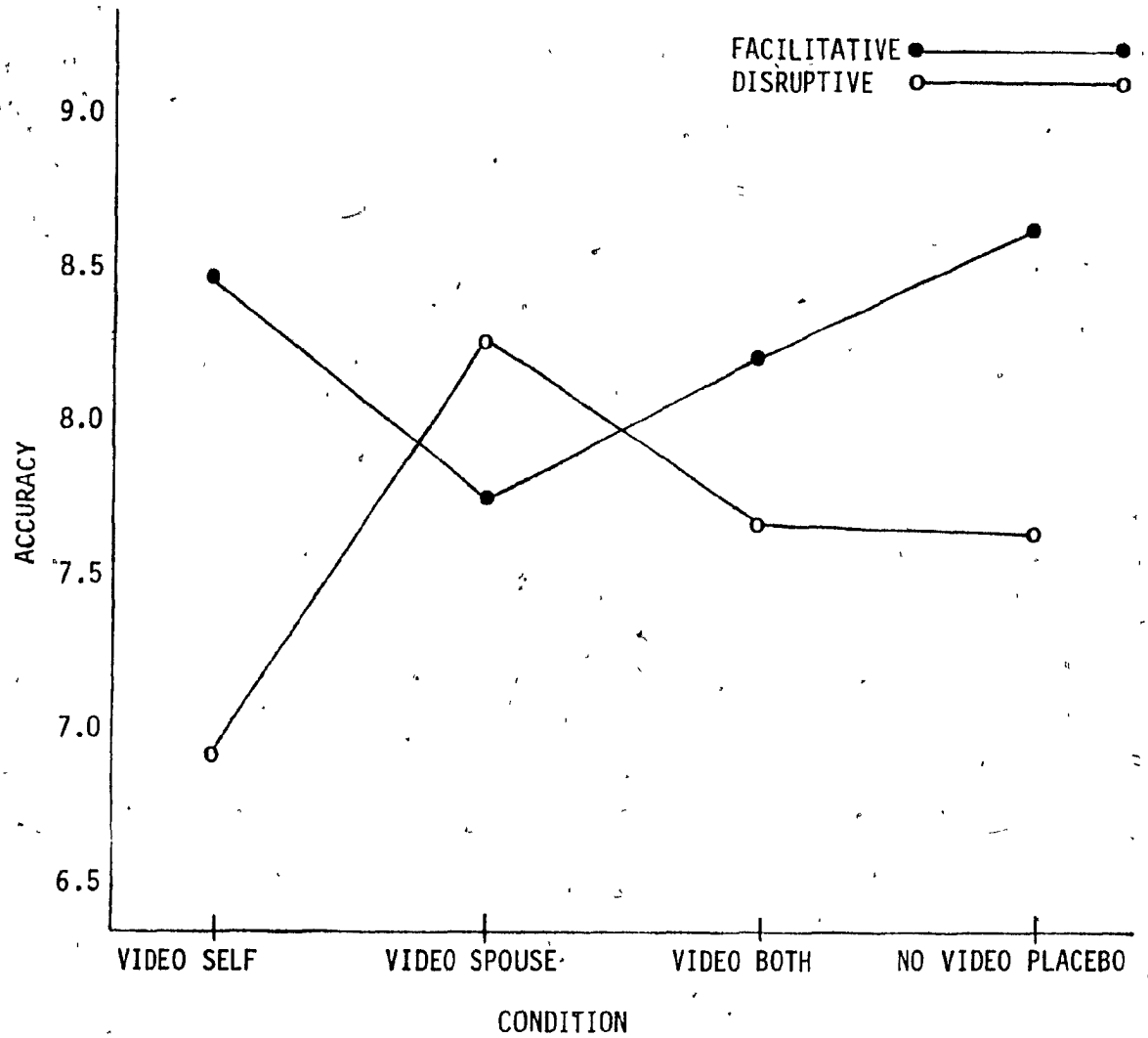

Figure 12. Video x Facilitative/Disruptive interaction means for judgments of feedback accuracy. The higher the value, the greater the accuracy.

The results of these tests on accuracy scores in the four feedback divisions and in the two feedback categories suggest that video viewing does not have consistent effects on subjects' evaluations of feedback accuracy.

Follow-Up

Sample characteristics. Fifty-one subjects (53%) (25 couples and 1 wife) returned follow-up questionnaires; their average pre-test MAS score was 82.24, which is very similar to the mean MAS score of the whole sample (82.51).

In response to a 5-point question (on the Relationship Information Sheet) concerning the effects of participation in the study on couples' marital relationships, two (4%) subjects indicated that participation resulted in substantial improvement, 19 (38%) stated that participation resulted in some improvement, while 29 (58%) reported no changes. One subject did not answer the questionnaire. None of the subjects indicated that participation in the study caused deterioration. Six couples started in marital therapy after they were seen in the laboratory.

During debriefing, some subjects saw additional videotapes of themselves. This makes comparisons among the different video conditions at follow-up inappropriate. As no additional instructional verbal feedback was given to couples, the effects of feedback were examined at follow-up. Some subjects did not complete all the follow-up measures, thus, the Ns in various comparisons differ slightly.

Effects of instructional verbal feedback on marital satisfaction. Changes in MAS scores were examined in a 3-way (2 between-groups, 1 repeated measure) ANOVA comparison [2 (Gender) x 2 (Feedback) x 2 (Pre/Post)]. The means and standard deviations of these scores can be found in Table E.16 and the results of the analysis in Table E.17. Only a significant B (Feedback) main effect was found [$F(1,46)=4.390$, $p < .05$]; means indicate that the MAS scores of subjects returning completed follow-up questionnaires who had been given instructional verbal feedback were significantly higher at both testing times

than the scores of those not given feedback. Significant interactions were not found.

Effects of instructional verbal feedback on perceptions. The Self and Spouse Rating Scale scores before intervention and at follow-up were used in a 4-way (2 between-groups, 2 repeated measures) ANOVA comparison [2 (Gender) x 2 (Feedback) x 2 (Self/Spouse) x 2 (Pre/Post)]. The only significant finding was a Self/Spouse main effect [$F(1,45)=18.126$, $p<.001$]. Means indicate that subjects evaluated themselves more favorably than they did their spouse; this difference replicates similar findings at other testing times.

Effects of instructional verbal feedback on attributions of control. Attributions of control before participation and at follow-up also were examined in a 4-way (2 between-groups, 2 repeated measures) ANOVA comparison [2 (Gender) x 2 (Feedback) x 2 (Self/Spouse) x 2 (Pre/Post)]. Only the Self/Spouse main effect was significant [$F(1,39)=5.798$, $p<.05$]; this finding replicates the results on attributions of control during the laboratory phase of the study, and shows that subjects attributed greater influence over the atmosphere during disagreements to their spouse than to themselves.

Discussion

Communication Behaviors

Effects of video and instructional verbal feedback on behaviors. The results of the present study do not support any part of Hypothesis 1, in which it was predicted that video playback and instructional verbal feedback would have separate and additive effects on behavioral improvement. In spite of the large variety of ways in which the data were analyzed, neither video playback nor instructional verbal feedback effected any significant changes in either the Productive or Counterproductive behaviors of couples. When the effects of these two variables on changes in behaviors targeted for treatment were examined, the only pertinent finding, an increase in rare positive behaviors by those who did not receive feedback, was no longer significant when frequencies transformed to standard scores were used in data analysis. Except for the finding that wives emitted more Counterproductive behaviors than husbands, all significant results may be best explained by a regression toward the mean, since rare behaviors, both positive and negative, increased in frequency while common behaviors decreased.

Only one of the 16 tests carried out to assess the impact of video playback and instructional verbal feedback on behaviors in each code revealed a significant main effect; subjects administered instructional verbal feedback decreased the number of Put-Downs they emitted, relative to those who were not given such feedback. Although four additional 3-way interactions also were found (in the AP, HU, CR and EX codes), tests of simple effects did not reveal consistencies. Given the large number of post hoc tests performed, it would appear that video playback and instructional verbal feedback were not effective in altering either verbal or non-verbal behaviors.

These negative results are somewhat surprising, since the findings reported in the literature suggested that both video playback and instructional verbal feedback should be useful in altering couples' communication skills. Several possible explanations can be proposed for the unanticipated results.

First, the standard deviations in the present study are quite large, indicating high variability between subjects. Of course, this diminishes the likelihood of finding significant differences. However, the large standard deviations cannot account for all of the negative results. A variety of statistical techniques were used to increase the power of the tests. For example, repeated measures were included in the design and numerous transformations were carried out in order to make variances more homogeneous. Furthermore, standard deviations in some of the analyses were relatively small, and yet tests revealed no significant differences.

Another possible source of the negative findings may be the brevity of the intervention in the present study; the total procedure, including the orientation session, lasted only 3 1/2 hours and couples were seen for only one session. Other investigators have demonstrated positive outcomes using interventions of less than 3 hours. For example, many component analysis studies which report significant findings in the social skills training literature (e.g., Arnkoff & Stewart, 1975; Bailey et al., 1977; Hersen et al., 1973; McFall & Lillesand, 1971; McFall & Twentyman, 1973) and in the marital therapy literature (e.g.,Eisler et al., 1973; Carter & Thomas, 1973) also have used extremely short interventions, with the entire procedure lasting less than 3 hours. Nonetheless, a lengthier treatment which includes many repetitions may be necessary to achieve changes in communication behaviors. There can be important interactions between treatment length and other variables; some of these are described below.

The motivation of volunteer couples deserves consideration. Although some couples may have volunteered in order to make a contribution to science, it is possible that others participated because they wanted an opportunity to argue in front of an outsider, thereby attempting either to demonstrate the spouse's "pathology" or to solicit a professional's alliance in a dispute. Defensiveness could have prevented behavioral changes since spouses may have needed to hold on to their current beliefs and behaviors in the absence of therapeutic support. On the other hand, spouses may have been motivated to make changes, as some of them volunteered in order to learn something which would help them to improve their relationship. Certainly a number of couples mentioned this reason during debriefing. Two lines of evidence suggest that a desire to improve their relationship may have motivated at least some participants. Of the 48 couples seen, eight were referred by their marital therapist while almost half of the remaining 40 had received marital therapy in the past, and yet were still sufficiently distressed to be included in the sample. Furthermore, six (24%) of the 25 couples who returned follow-up questionnaires started marital therapy after they were seen in the laboratory. It should be noted that none of the participants indicated that their involvement in the study caused any deterioration in their relationship.

The nature of the problems used to generate discussion might have made significant changes unlikely. It was decided to use couples' own marital difficulties because several studies which used contrived problems to generate interaction have shown that distressed and non-distressed spouses may not differ in their communication styles when the topics discussed are not relevant to the participants' own disputes and concerns (Gottman et al., 1976; Birchler & Webb, Note 3). Since couples in the present study discussed problems in their

own relationship, the importance of resolving issues may have stimulated spouses to use their most potent aversive tactics. Thereby, changes in communication behavior may have been precluded. However, because only mildly or moderately problematic issues were used to generate interaction, it is unlikely that this factor was responsible for all of the present negative results. Furthermore, other investigators (e.g., Carter & Thomas, 1973) have reported changes after brief interventions when couples' own problems were used to generate interaction.

Another factor which should be considered is the sequencing of the video playback and instructional verbal feedback interventions. The design of this study required that spouses be administered video playback before instructional verbal feedback. This order of presentation was necessary because perceptions and attributions had to be assessed before subjects received objective evaluations of their performance. Although there is no direct evidence on the importance of the sequencing of treatment components, it is possible that had instructional verbal feedback been provided prior to videotape viewing, subjects might have focused on those specific behaviors which were targeted for treatment and, therefore, may have made changes in these behaviors. As the behavioral effects of videotape playback and instructional verbal feedback have rarely been investigated independently of one another or of other treatment components in controlled studies, this possibility has yet to be investigated. Indeed, most investigators who report that the addition of video playback to another treatment component enhanced therapeutic effectiveness either administered the two components simultaneously (e.g.,Arnkoff & Stewart, 1975; Melnick, 1973) or administered video playback after the other intervention (e.g.,Eisler et al., 1973). The same is true of many studies which demonstrated the value of adding verbal feedback to another therapeutic component (e.g.,Hersen et al., 1973;

McFall & Twentyman, 1973). However, the sequencing of the two techniques does not explain the absence of separate main effects. It may be true, as Thomas (1977) suggests, that videotape and instructional verbal feedback, "should generally be augmented with other methods of modification to ensure a better chance of success" (p. 95), and that these two treatment components, in the absence of modelling, rehearsal, training in pinpointing specific behaviors and other commonly used ingredients in package programs, are not effective in altering complex interpersonal behavior. What feedback to give, how to give it, at what point in therapy to provide it, and how much feedback to administer at any one time are questions which have yet to be answered.

It is also possible that the behavioral changes requested in the instructional verbal feedback intervention were too difficult for some couples to execute. Wright and Fichten (1976) speculated that troubled spouses, possibly the most highly distressed, may not have the appropriate skills available in their repertoire; feedback of any sort may then be insufficient in the absence of a skills acquisition program. This notion receives some empirical support from the correlational study conducted by Renne (1970). Her data indicate that individuals who have relatively few close friends are much more likely to have unhappy marriages than are people who have many intimate friends. These findings could mean that some distressed spouses are deficient in the behaviors which help to maintain intimate relationships. Constructive dialogue between strangers may require skills different from those needed during interaction between close friends and marriage partners (Altman, 1974). Indeed, in the assertion training literature, several investigators (Eisler, Hersen, Miller & Blanchard, 1975; Zeichner, Wright & Herman, 1977) have found that effective interpersonal behavior varies as a function of social context.

A skills deficit view of disturbed communication differs from the position of Vincent et al. (1975). In a study of problem solving between spouses and strangers from distressed and non-distressed relationships, these investigators found that troubled couples communicated less effectively than happy couples. Spouses from these two groups were not shown to differ appreciably during interaction with a stranger. The authors interpreted their findings as support for a "situational inhibition" rather than a skills deficit view of disturbed communication. However, it should be noted that in their study the differences between happy and troubled couples were small and only marginally significant and that subjects discussed contrived problems [Olson & Ryder's (1970) Inventory of Marital Conflicts (IMC)] which may not have been personally relevant. Furthermore, Birchler and Webb (Note 3), who also used the IMC, failed to replicate the differences which Vincent et al. found between happy and distressed couples and found that there were significant differences in the behaviors of spouses when they discussed their own problems and when they discussed the IMC topics.

A skills deficit explanation of the present negative results may be reconciled with the Vincent et al. findings when one considers the type of communication studied. Renne's (1970) and Birchler and Webb's (Note 3) data suggest that had Vincent et al. examined "intimate" communication, perhaps between friends, and had they used personally relevant topics to generate interaction, spouses from distressed and happy relationships may have differed when interacting with persons other than their spouse. Although Vincent et al.'s interpretation of their data suggests that since the requisite communication skills are available in their repertoire, distressed spouses should be able to use these skills when told to do so, the present results show that

faulty communication behaviors are not easily altered.

That video playback and instructional verbal feedback did not have any effects on observed behavior may also be explained in terms of the cognitive and motivational biases of distressed spouses. Spouses who a) believe that they are more skilled than their partner and b) attribute their partner's actions to stable personality characteristics may not expect behavioral changes from their mate nor be motivated to improve their own communication skills. This explanation is supported by the present study's findings of perceptual and attributional bias, and will be discussed later.

Relationships between behaviors. The significant correlations obtained between pre-test and post-test behaviors, both Productive and Counterproductive, indicate that subjects' behaviors in both of these categories are relatively stable over time, with Counterproductive behaviors somewhat more consistent [Productive: Pearson r = +.479 (Males) and +.306 (Females); Counterproductive: r = +.641 (Males) and +.715 (Females)].

The behaviors of husbands and wives also were found to be significantly correlated. Counterproductive behaviors, again, were more closely related [average Pearson r = +.350 (Productive) and +.515 (Counterproductive)]. As Gottman et al. (1976) noted, correlations between spouses' behaviors do not necessarily imply reciprocity. Nevertheless, demonstration of such relationships is meaningful, as these correlations may reflect reciprocity, similarity or modelling by spouses. The present findings suggest that the alteration of one spouse's behavior may be accompanied by similar changes in the behavior of the partner.

Productive and Counterproductive behaviors were shown to be unrelated. No significant correlations were found either within subjects or between spouses.

Based on different types of data, these results are similar to those of Wills et al. (1974), who found little relationship between spouses' "pleasing" and "displeasing" behaviors in the home. Recent approaches to behavioral marital therapy have focused on the acceleration of positive behaviors (Stuart, 1975; Weiss et al., 1974). The present findings imply that programs to decrease negative communication behaviors should also be developed. Communication skills training programs which teach spouses to both increase positive and decrease negative behaviors would be desirable. Because spouses may not have the appropriate positive behaviors in their repertoire, they may need to learn how to change their relationship through positive reinforcement. Spouses may also have to be taught to decrease negative behaviors, as the results of the present study suggest that an increase in positive behaviors may not be accompanied by a decrease in negative ones.

Additional findings of interest concern the highly significant coefficients obtained when trained observers' ratings on the Marital Interaction Rating Scale (MIRS) and on the Modified Marital Interaction Coding System (MMICS) Productive and Counterproductive category scores were correlated. The single MIRS score, based on one non-stop viewing of a videotape, was shown to correlate positively with MMICS Productive category scores [Pearson r = +.564 (Males) and +.548 (Females)] and negatively with MMICS Counterproductive scores [r = -.612 (Males) and -.687 (Females)]. These results differ from those of Royce and Weiss (1975), whose raters were untrained. In their study, untrained observers' ratings of adjustment were correlated with spouses' overall rates of aversive, but not of supportive behaviors. The significant correlations found between MMICS and MIRS scores become important when the costs involved in obtaining objective ratings are considered. First of all, the MIRS can be used to score

live communication reliably. Secondly, when videotapes are available, the 10 minutes required to complete this scale compare favorably to the 1 1/2 hours needed for the MMICS. As the code-by-code correlations are also significant and approach the reliability of the MMICS codes themselves (Dixon et al., Note 9), this efficient and economical instrument may be useful to both clinicians and researchers.

Sex differences. When the pre-test Productive and Counterproductive category scores were examined, females were found to emit more Counterproductive behaviors than males. Further code-by-code examination of sex differences indicates that wives tended to Agree (AG) and Accept Responsibility (AR) less often than their husbands while they tended to Complain (CP) and Criticize (CR) more frequently. Although not predicted, such differences might be interpreted as a reflection of the discrepancy between the marital roles and needs of husbands and wives.

The husband, typically regarded as the more powerful member of the marital dyad because he often controls essential resources, such as prestige and money, usually provides economic support and status in return for a variety of emotional and physical services rendered by the wife (Murstein & Beck, 1972; Safilios-Rothschild, 1976; Thurnher, Note 10). In coercive social exchanges between spouses, the husband has the option to exercise control over his wife through tactics such as withholding money and vetoing purchases. The husband also can use coercive strategies such as going home late and physical force, options usually unavailable to women. Men are often more involved in their job than are working wives and, thus, have available sources of gratification outside the home, as well as inside.

Although these roles are changing, women often have the primary responsibility for child care and for the day-to-day needs of the family (Hoffman, 1977). Since wives are often more concerned about the home and the marriage, it has been argued (Bell, 1975; Bernard, 1972) that the wife's satisfaction with life is more dependent on the marital relationship than is the happiness of the husband. Murstein and Beck's (1972) data provide some support for this view. These investigators found that the satisfaction of wives with their marriage was much more dependent on how they saw their husbands than was the case for how husbands saw their wives.

Because women are more involved in the home, it is likely that the outcome of domestic disputes has greater impact on the wife than on the husband. In the attempt to influence the outcome of disagreements concerning household matters, wives would be expected to use more potent behavior control tactics than husbands; wives have more at stake and fewer alternate control strategies. As troubled couples rely heavily on aversive control (Patterson & Reid, 1970), wives from distressed relationships would be expected to use coercive tactics during arguments more often than husbands. Even studies of non-troubled couples report that wives are more critical than husbands (Thurnher, Note 10). Indeed, it is surprising that sex differences were not found on other measures, since women are more likely than their partner to report marriage difficulties, to consider the marital relationship less happy (Bernard, 1972),and to attribute blame for problems to the husband (Gurin et al., 1960). Behavioral marital therapy research has generally ignored sex differences; a consideration of the differing roles and needs of husbands and wives, as advocated by Laws (1975), may produce findings of interest to practitioners.

Perceptions

The results of this study provide evidence for the existence of self-serving perceptual distortions. Although it was predicted that video playback would modify these biases, the data indicate that videotape viewing had no effects on perceptions.

Self-serving biases in perceptions. Hypothesis 2 (a), in which it was predicted that subjects would perceive their spouse's behaviors more negatively than their own, is strongly supported by the results. Subjects perceived their own behaviors significantly more favorably than those of their spouse at three different testing times: pre-test ratings of typical behaviors, ratings of behaviors occurring during taping, and ratings at follow-up. This difference between self and spouse evaluations occurred in both the means of the scores and in the number of subjects (72%) who rated their own behavior more favorably. The present findings of distortion in the perceptual process support Newtson's (1976) view, that is, in the study of attributions about the causes of what has been observed, the role of the perceptions upon which attributions are based also needs to be considered.

Other investigators have indicated that husbands and wives report on the same acts quite differently (Bernard, 1972; Glick & Gross, 1975; Olson, 1972; Olson & Rabunsky, 1972). The present findings indicate, moreover, that spouses see each other's behaviors more negatively even when directly observing these behaviors. Bradley (1978) argues that people should make overly favorable evaluations of their own behavior only in "public self-presentation" situations in which high ratings of one's performance are not susceptible to disconfirmation, and therefore tend to maximize public self-esteem. For example, Schlenker

(1975) found that self evaluations were consistent with expected success or failure when future public verification of behavior was anticipated, while self-presentations were equally favorable, regardless of outcome expectations, when future performance outcomes were ostensibly anonymous. Subjects in the present study evaluated their own behaviors more favorably than those of their spouse despite the three video cameras facing them and the knowledge that the interaction would be evaluated objectively. Thus, the present findings do not appear to be an example of a public self-presentation phenomenon; rather, the results suggest that spouses, when observing themselves and their partner, actually see more of their own positive and fewer of their own negative behaviors.

Given the present findings on perceptual biases, one may reconceptualize the skills deficit interpretation which Gottman et al. (1976) gave of their results. These authors noted that it is necessary to consider how subjects view their own and their partner's behaviors. For this reason, they asked the spouses in their study to indicate the intent of statements they made during conflictual interaction. The results showed that although distressed and happy couples did not differ in their intentions, spouses from a troubled relationship were much more likely to see their mate's behavior as having been intended negatively. Gottman et al. argue that these results support a communication skills deficit explanation of marital distress, since unhappy couples have difficulty translating their intentions into behaviors. It should be noted, however, that Gottman et al. made no observer ratings of the interaction and, thus, could not objectively assess whether the behaviors were, in fact, negative or whether neutral or positive actions were perceived negatively by the subjects. The results of the present study strongly suggest that a perceptual bias expla-

nation of the Gottman et al. findings is equally, if not more, plausible. Indeed, data from research in progress indicates that while it is difficult to distinguish between the communication behaviors of happy and troubled couples who volunteered to participate in the present study, spouses in these two groups differ significantly in their perceptions of their own and their partner's behaviors.

The absence of effects from videotape playback and instructional verbal feedback on communication behaviors may have been due to the perceptual biases of spouses. Subjects were apparently aware of more of their own positive behaviors than their spouse's and fewer of their own negative acts. One might ask why subjects should improve their own behaviors when they view their partner's actions more negatively than their own. If this were the attitude of most subjects, as it appears to have been, one would not expect spouses to be motivated to improve their own behavior and, thus, no behavioral changes should occur. Should this interpretation of the present findings be correct, then behavioral marital therapists, who usually require that each spouse initiate new positive behaviors, would hasten therapeutic gains by working toward the alteration of perceptual distortions before requiring spouses to make behavioral changes. This suggestion is discussed later.

Effects of video viewing on perceptions. The findings of systematic bias in self and spouse perception suggest that a negative "halo effect" (Triandis, 1977) may characterize distressed spouses' perceptions of each other. Although some means of dealing with unfavorable perceptions in behavioral marital therapy will have to be found, the answer is not likely to be video playback alone; two of the major hypotheses [2 (b) and (c)] of this study, those dealing with the effects of video playback on perceptual distortions, were not confirmed.

Video playback was not shown to have any significant effects on perceptions; differences were not found in a) the global ANOVA, nor in planned comparisons between b) self and spouse-viewing subjects and c) between subjects who saw themselves as a couple and those who did not see any videotape but spent time reflecting on their behaviors.

The analyses dealing with the assessment of possible changes in perceptual accuracy resulting from the videotape intervention yielded no positive results. The significant finding that one's spouse is perceived more accurately than oneself appears to be caused by a statistical artifact. Accuracy was defined as the discrepancy between observers' and subjects' ratings. Because ratings made by observers were generally lower than ratings made by subjects, while subjects' evaluations of their spouse were generally less favorable than their self evaluations, the apparently greater accuracy of spouse perception appears to be due to response bias (Cronbach, 1955; Triandis, 1977).

The absence of video effects may have been due to the stability of the impressions which spouses have of themselves and their partner. Although subjects were asked to indicate the frequency of observed behaviors (i.e.,self and spouse monitoring), perhaps this task was too closely linked to spouses' global evaluations of themselves and of their mate. It is usually assumed that stable impressions are resistant to change because people need to maintain consistency among their cognitions (Zajonc, 1968); impressions which are well established are often extremely difficult to alter, even in the face of overwhelmingly disconfirmatory evidence. It may not be possible to change even erroneous impressions through mere exposure to new evidence (Hastorf et al., 1970; Ross, 1977). It is likely that, in the present study, spouses' stable impressions may have precluded change. The significant correlations obtained

between subjects' retrospective ratings of behaviors during typical disagreements at home and their ratings of behaviors occurring in the laboratory [Pearson r = +.305(Self Rating) and +.493(Spouse Rating)] support this view. In addition, the significant correlations between ratings made 6 months apart [r = +.429(Self Rating) and +.679(Spouse Rating)] suggest that subjects' impressions are stable over time.

Spouse ratings were more highly correlated than self ratings in both of the above examples. These results could be interpreted as support for the self/other aspect of the Jones and Nisbett hypothesis, since consistent spouse perceptions are likely to reflect stable dispositional attributions about the causes of the partner's behavior.

Spouses completed perception questionnaires at follow-up; these ratings of their own and their spouse's behavior also were examined. Because most couples had seen additional videotapes of themselves during debriefing, it was inappropriate to test for video effects. Therefore, only instructional verbal feedback effects were evaluated; the results indicate that this intervention had no delayed consequences. This finding is not surprising, as cognitive changes would not be expected to occur in the absence of behavioral improvement.

Relationships between perceptions and behaviors. The significant but low correlations obtained between subjects' ratings of their own behaviors and the ratings of the same behaviors by their spouse [Pearson r = +.305(Males) and +.333 (Females)] are similar to correlations reported in the interpersonal perception literature (e.g., Dornbush, Hastorf & Richardson, 1965; Triandis, 1977). However, some investigators have found that husbands' and wives' ratings of the same actions are similar. For example, Wills et al. (1974) reported that spouses' ratings of the "pleasing" and of the "displeasing" behaviors of each are closely

related. The low correspondence found in the present study between subjects' ratings of their own behaviors and their partner's ratings of the same behaviors may have been due to the complexity of the interaction which spouses were evaluating. Perhaps the behaviors which therapists ask couples to monitor should be relatively simple, as it may be difficult for spouses to make accurate ratings of complex events.

No significant correlations were found between subjects' ratings of their own or their partner's behaviors and observers' ratings of the same behavior samples (Pearson r values ranged from +.062 to +.230). Murphy and Mendelson (1973) reported that evaluations made by observers and subjects' self and spouse ratings were closely related. However, the instruments used by both the couples and the observers in their study were designed to tap global "goodness" qualities, and were not meant to be evaluations of specific observed behaviors. The present findings of extremely low correspondence between spouses' and trained observers' ratings suggests that investigators should not presume agreement between these two discrepant sources; agreement should be ascertained, rather than assumed, both in therapy and in research on couples (Glick & Gross, 1975; Jacob, 1976).

There are several possible explanations of the present non-significant correlations. Observers trained in the behavioral approach and untrained spouses may have different referents for the same words. Hence, training that involves teaching spouses to pinpoint specific aspects of their behavior may have to be undertaken as a first step in therapy in order to establish a common language and system of meanings between therapists and clients. It is also possible that spouses and observers perceive behavior during complex interaction very differently; this would imply that special care should be taken when spouses are taught to monitor their own and their partner's behaviors.

Attributions

The results of this study provide evidence for the existence of both self/other and self-serving attributional biases. The findings, however, do not support the visual perspective aspect of the Jones and Nisbett proposition nor Storms' (1973) contention that videotape self-viewing alters actor-observer attributional biases. Furthermore, the present findings indicate that distressed spouses are susceptible to "positivity" bias, that is, the tendency to see people as causing positive acts (Taylor & Koivumaki, 1976).

Positivity biases in attributions. Subjects tended to attribute more positive than negative traits to both themselves and their spouse. Such bias is also apparent in the results obtained on judgments of feedback accuracy. Feedback concerning Facilitative behaviors was seen as more accurate than feedback concerning Disruptive behaviors; this was true when subjects were rating the accuracy of both their own and their spouse's feedback evaluations.

Self-serving biases in attributions. The results of the analyses on traits and on feedback accuracy judgments did not reveal differences between subjects' attributions about themselves and about their spouse. Thus, the results do not support the predictions of self-serving bias in trait attributions made in Hypothesis 3 (a), which stated that subjects would attribute more socially desirable traits to themselves than to their spouse. Nor do the results support the prediction [Hypothesis 3 (e)] that subjects would judge feedback concerning their own Facilitative and their spouse's Disruptive behaviors to be more accurate than feedback concerning their own Disruptive and their spouse's Facilitative acts.

Self-serving biases were found, however, in spouses' attributions of control over the tone of the discussion during conflictual interaction, as well as in subjects' attributions about the causes of their own and their spouse's Facilitative and Disruptive behaviors. When asked to gauge the role of each spouse in controlling the atmosphere during conflictual discussion in the laboratory, subjects attributed more control to their partner than to themselves. These results were replicated at follow-up, when subjects rated their spouse as more influential in controlling the atmosphere during typical disagreements. The finding that subjects believe that their partner is responsible for the way in which conflict is handled indicates that spouses' judgments are influenced by self-serving biases and support Gurin et al.'s (1969) conclusion that spouses often blame each other for problems. The present findings of self-serving bias in attributions of control are similar to results reported by Miller and Norman (1975). These investigators found that active observers, who participate in conflictual interaction, differ from passive observers by assigning more behavioral responsibility to the person with whom they are in conflict. The present results suggest that attributions made by highly involved actors and active observers who are engaged in conflictual interaction may differ from attributions made by actors who are involved in non-conflictual tasks or in non-interactional situations, and by passive observers of these actors. Therefore, in the study of actor-observer differences in attributions, the effects of variables such as the nature of the interaction and the active or passive status of observers should be carefully investigated.

Self/other biases in causal attributions. The present findings provide support for both the self/other and for the self-serving bias aspects of Hypothesis 3 (b). It was predicted that subjects would make relatively more

internal attributions concerning the causes of their spouse's behaviors and more external attributions concerning their own, and that subjects' inferences would be affected by self-serving biases when making attributions about Facilitative and Disruptive behaviors. Differences were found in attributions of dispositional and situational causation for one's own and one's spouse's behaviors, as well as in attributions made concerning Facilitative and Disruptive behaviors during typical disagreements.

Before discussing the findings on self/other biases, it should be noted that internal attributions to the personality of the Emitter of behavior were always greater than external attributions to the personality of the Other person with whom the Emitter was interacting or to the nature of the Topic under discussion. These results are consistent with the findings of Ross, Amaible and Steinmetz (1977), who reported that subjects err in the direction of overestimating dispositional causes and underestimating the role of situational variables, as was suggested by Mischel (1973).

It was predicted [Hypothesis 3 (b)] that, because the information available to actors and observers differs, subjects' attributions about the causes of their own and their spouse's behaviors would be different. The findings of the present study provide support for the existence of such self/other differences, as subjects made relatively more external attributions for their own behavior and relatively more internal attributions for their spouse's actions. When subjects were making attributions about the causal role of the Other person, this difference was especially large; spouses were more likely to attribute their own behavior to the personality of their mate than they were to attribute their spouse's behavior to themselves. Such a finding is consistent with clinicians' reports on the role of projection in marital discord (Schwartz &

Leder, 1972). Furthermore, when the Emitter : Other ratios, which reflect relative dispositional : situational attributions, were examined, subjects were more internal when making attributions about their spouse's behaviors than when considering their own. Males were more dispositional than females.

Self-serving biases in causal attributions. The findings on causal attributions support the predictions concerning self-serving biases made in Hypothesis 3 (b). Subjects made relatively more internal attributions for their spouse's Disruptive and their own Facilitative behaviors, and relatively more external attributions for their spouse's Facilitative and their own Disruptive acts. When Emitter : Topic ratios of dispositional : situational attribution were examined, the results indicate that subjects made relatively more dispositional attributions for their own Facilitative and for their spouse's Disruptive behaviors. This finding is consistent with those of Gottman et al.(1976), whose data indicate that distressed spouses are likely to believe that their partner's intentions during conflictual interaction are negative. The present results are also in agreement with Monson and Snyder's (1977) argument that actions which are perceived as intentional are likely to be explained through dispositional attributions.

Perhaps it is worth noting that the subjects (married students) in Taylor and Koivumaki's (1977) study saw themselves more situationally than they saw their spouse. However, since in their sample of presumably "normal" couples subjects did not reverse these attributions when they were considering positive acts, it may be this reversal of self/other biases which differentiates happy from distressed couples. Indeed, data from research in progress indicates that the happy couples who volunteered to participate in the present study did not make different attributions for their own and their spouse's Facilitative and Disruptive behaviors.

Self-serving biases also were found when the social desirability of traits used by subjects to describe their own and their spouse's behaviors were examined. The results indicate that subjects chose less socially valued terms to describe their partner's negative characteristics than to describe their own. These findings lend partial support to the prediction [Hypothesis 3 (a)] that subjects would use more desirable and fewer undesirable adjectives to describe their own acts than to describe their spouse's. Self-serving biases may be especially important when attributions are made concerning negative acts.

The present findings of self-serving and of self/other attributional biases may be used to explain the absence of videotape and instructional verbal feedback effects on communication behaviors. The results suggest that subjects may have made the following assumptions: a) behavior in general is caused by personality rather than by situational constraints and b) the spouse's behaviors, especially his or her negative acts, are caused by stable traits. Spouses, having made the attribution, "Well, my partner is like that," probably do not expect that the partner can or will make changes in his or her behavior. Not anticipating behavioral improvements from their spouse, subjects may have had no reason to make changes in their own behavior, especially since, as shown earlier, spouses viewed their own behavior more favorably than their partner's. Such a pessimistic view of improvement by the partner may preclude changes in the behavior of both spouses. It was expected that videotape self-viewing would alter distorted perceptions and attributions which may inhibit behavior change. However, videotape playback was not shown to affect perceptions, or, as the results reviewed below indicate, attributions. Other techniques for modifying perceptual and attributional styles and biases will have to be found. Some suggestions concerning possible research and therapy directions are presented later.

Effects of video viewing on attributions. Although it was predicted [Hypotheses 3 (c), (d) and (e)] that video viewing would be useful in the modification of both the actor/observer and the self-serving biases of distressed spouses, the results of this study do not support any of these hypotheses.

No significant video effects were found on attributions of control over the atmosphere during interaction. Others (Arkin & Duval, 1975; Taylor & Fiske, 1975) have reported that the person who is the focus of attention is usually seen as exercising greater control over the situation. In the present study, subjects attributed more control over the atmosphere during conflictual interaction to their spouse than to themselves; this pattern was not altered by any form of video playback. Since one's spouse was generally seen as more controlling than oneself, both during taping and at follow-up, it is probable that video playback did not affect these attributions because subjects' beliefs concerning who is responsible for conflict are well established and strongly held. Thus, the present findings suggest that stable attributions concerning highly relevant actions are not easily altered.

Video playback did not have any substantial effects on the indirect measure of attribution in which subjects rated the accuracy of feedback given to them. Subjects judged feedback concerning Facilitative behaviors to be more accurate than that concerning Disruptive behaviors; this was true of subjects' ratings of both their own and their spouse's feedback evaluations. The only video effect found showed that self-viewing subjects and those in the No Video Placebo condition are especially likely to accord high accuracy ratings to feedback concerning Facilitative behaviors. Although it would be tempting to argue that self-viewing allowed subjects to attend to both their own and their spouse's positive acts, the fact that subjects in the No Video

Placebo condition also judged feedback concerning Facilitative behavior to be more accurate suggests otherwise. The absence of significant video effects on subjects' accuracy ratings in the four feedback divisions (rare and frequent positive and negative behaviors) supports the conclusion that it would be premature to credit self-viewing with the alteration of spouses' attributions.

Finally, videotape was not found to have any significant effects on causal attributions; playback did not alter either the actor-observer or the self-serving biases of spouses. It is unlikely that these negative results are due to measurement variables. Floor or ceiling effects are not evident in the data and the between subjects variability is not excessive. The data were analyzed in a variety of ways which included making planned comparisons on external and internal attributions and on two types of dispositional : situational proportions. The absence of video effects on such a large number of tests is notable. This failure to find significant effects from videotape supports Taylor's (1975) contention that it is important to distinguish between arbitrary and relevant situations. As noted earlier, studies which demonstrated visual perspective and focus-of-attention effects have generally investigated the attributions made by passive observers of solitary actors engaged in arbitrary behaviors (e.g.,describing a "gizmo"). When interaction was observed, the encounter was typically neutral and non-conflictual, such as meeting someone for the first time, or trivial and highly artificial (e.g.,prisoners' dilemma game). The present negative findings suggest that altering the focus of actors' and observers' attention will probably not bring about attributional changes when subjects make inferences about their own behaviors and those of well known others during highly relevant conflictual situations in which each person is simultaneously an actor as well as an active observer. In this

context, attributional biases are likely to be highly stable and well established and may be extremely difficult to modify. The absence of video effects in the present investigation suggests that visual perspective and focus-of-attention research is likely to be valuable in clarifying the mechanisms of attribution acquisition, but not the mechanisms of attribution maintenance or change.

Conclusions

Distressed spouses were shown to possess self-serving as well as self/other attributional biases which video viewing did not alter. Therefore, the findings of focus-of-attention and visual perspective studies may not be generalizable to a consideration of attributional changes in "real-life" situations. Strongly held impressions and stable, well established attributions about the causes of personally relevant behaviors, both one's own and those of well known others, may not be affected by visual reorientation. Before extensive generalizations are made, studies in the literature should be replicated on actors and active observers who participate in relevant, salient and meaningful interaction. Both neutral and conflictual tasks should be used. Investigators also should study friends and acquaintances during interaction in order to ascertain the importance of the familiarity dimension. Stable, well formed impressions and attributions and transient, poorly integrated ones may respond to different interventions. The role of perceptual distortions in the study of attributional biases also deserves further investigation.

The strong perceptual and attributional biases found in the present study suggest that such distortions in distressed couples should be subjected to further investigation. Should happy and troubled couples be found to differ on these dimensions, evaluation of the effects of skills training programs on

couples who do and on those who do not have these biases would be warranted. Such evaluations may be especially important, since current approaches to behavioral marital therapy still appear to be influenced by what Kiesler (1966) called the "uniformity myth". Inadequate communication skills and distorted perceptions and attributions can make independent and additive contributions to marital distress. If skills training should have differential effects on couples who do have self-serving perceptual and attributional biases and on those who do not, cognitive training (Meichenbaum, 1977), designed to eliminate these biases, may have to be added to conventional treatment packages. That such cognitive training may be beneficial is suggested by Glass, Gottman and Shmurak's (1976) research. These investigators found that a traditional skills training approach was equivalent to a cognitive self-statement modification package in effecting behavioral and self-report changes in socially anxious males. Their post hoc finding that these two treatments had differential effects on those subjects who suffered from specific and those who suffered from generalized social anxiety suggests that cognitive and skills training interventions may effect beneficial changes in different types of couples. Spouses may use poor communication skills when interacting with each other because they are deficient in the requisite skills or because effective behaviors are "situationally inhibited". Cognitive training may be most useful with spouses fitting the latter description, while a skills acquisition approach may be more valuable with couples who do not have the appropriate skills in their repertoire. Valid and reliable measures should be used to assess spouses' perceptions and attributions; in the evaluation of such instruments, the relationship between trained observers' and spouses' ratings of behavior may deserve consideration.

In studies of therapy aimed at improving couples' communication skills, investigators should examine the effects of videotape playback and instructional verbal feedback when these techniques are combined with other commonly used ingredients, such as rehearsal, modelling, role play, and training in pinpointing behaviors. Both brief "analogue" research and lengthier treatment outcome studies are needed; the work of Mayadas and Duehn (1977) is a step in the latter direction.

Dependent measures should include specific commmnication behaviors (Vincent et al., 1975), global ratings of happiness (Azrin et al., 1973), self and spouse monitoring of particular events (Stuart, 1975; Wills et al., 1974) and ratings made by spouses concerning their perceptions and attributions about the causes of their own and their partner's behaviors. The measures listed above should be utilized concurrently and possibly, as suggested by Jacobson (1977), in replicated "single couple experiments" which permit the evaluation of the relationships between changes on the various measures. Such information would be valuable both from a theoretical and from a practical viewpoint. Knowledge of the relationship between behavioral and cognitive changes caused by various treatment components could clarify the nature of the interaction between these variables and could be useful in the formulation of effective treatments which produce lasting, durable and generalized changes. Finally, objective data on the selection criteria used in marital therapy in general, and in behavioral marital therapy in particular, are needed. Designs would require that couples with varying levels of severity of distress on the above dependent measures be treated.

Rubin and Mitchell (1976) warned that research on couples may be a reactive process and may have deleterious effects on the relationship between spouses. The

present study found no evidence of such deterioration. Follow-up data indicate that of the 51 subjects (53%) who returned completed questionnaires, none indicated that participation in the study caused any deterioration in their relationship. Indeed, 42% of respondents indicated that participation resulted in some improvement. Furthermore, examination of couples' pre-test and follow-up MAS scores indicates no significant changes in reported marital satisfaction. Subjects' self and spouse perceptions also remained unchanged. Of the 25 couples who responded at follow-up, six (24%) started in marital therapy after participation. This may be interpreted as a negative outcome for these couples. However, given their distressed status, starting therapy may also be viewed as a desirable consequence of participation.

It is possible that couples who did not complete the follow-up questionnaires experienced different outcomes. It also may be that participation in a study of marriage has differential effects on couples with differing levels of distress. In the present study, the follow-up results are not confounded by distress level; the pre-test MAS scores of follow-up respondents is not different from the scores of non-respondents. Furthermore, the 53% return rate compares favorably to the 40% rate of return by the happy couples who had volunteered and who were studied in another research project.

The follow-up results described above are also relevant to a consideration of the possible deleterious effects of videotape playback. All couples saw videotapes of themselves, either during the experimental phase of the study or during debriefing. Hence, the present study found no evidence of deterioration following videotape playback of conflictual interaction. Although such findings do not guarantee safety, the follow-up results do imply that the risks of using videotape playback in research on couples are not overwhelming.

Reference Notes

1. Thomas, E.J., Walter, C.L., & O'Flaherty, K. Assessment and modification of marital verbal behavior using a computer-assisted signal system (CASAM). Paper presented at the meeting of the Association for the Advancement of Behavior Therapy, New York, 1972.

2. Olson, D.H. Behavior modification research with couples and families: A systems analysis, review and critique. Paper presented at the meeting of the Association for the Advancement of Behavior Therapy, New York, 1972.

3. Birchler, G.R., & Webb, L. Developing simulation tasks to measure marital problem solving. Paper presented at the meeting of the Western Psychological Association, Los Angeles, April 1976.

4. Hops, H., Wills, T., Patterson, G., & Weiss, R. Marital interaction coding system. University of Oregon Research Institute, 1977. (NAPS Document No. 02077).

5. Kagan, N. Influencing human interaction: Eleven years of IPR. Unpublished manuscript, Michigan State University, 1973.

6. Crowley, T.J., & Ivey, A.E. Dimensions of effective interpersonal communication: Specifying behavioral components. Unpublished manuscript, University of Massachusetts, June 1975.

7. Biggs, S. Interpreting the me I see: Tentative influences of video self confrontation on causal attribution. Paper presented at the meeting of the British Psychological Society, Social Psychology Section, Durham, England, September 1977.

8. Dixon, P. A behavioral assessment of marital interaction: Its validity and clinical utility. Unpublished manuscript, McGill University, 1977.

9. Dixon, P., Fichten, C., & Wright, J. The marital interaction rating scale: A rapid and inexpensive behavioral coding system. Manuscript in preparation, 1978.

10. Thurnher, M. Marital relations: A life cycle perspective. Paper presented at the meeting of the Gerontological Society, Miami Beach, 1973.

References

Ajzen, I., & Fishbein, M. A Bayesian analysis of attribution processes. Psychological Bulletin, 1975, 82, 261-277.

Alger, I., & Hogan, P. Enduring effects of videotape playback experience on family and marital relationships. American Journal of Orthopsychiatry, 1969, 39, 86-94.

Alger, I., & Hogan, P. The use of videotape recordings in conjoint marital therapy. In M. Berger (Ed.), Videotape techniques in psychiatric training and treatment. New York: Brunner/Mazel, 1970.

Alkire, A.A., & Brunse, A.J. Impact and possible casualty from videotape feedback in marital therapy. Journal of Consulting and Clinical Psychology, 1974, 42, 203-210.

Altman, I. The communication of interpersonal attitudes: An ecological approach. In T. Huston (Ed.), Foundations of interpersonal attraction. New York: Academic, 1974.

Anderson, N.H. Likableness ratings of 555 personality-trait words. Journal of Personality and Social Psychology, 1968, 9, 272-279.

Argyle, M. Social interaction. New York: Aldine, 1969.

Arkin, R.H., & Duval, S. Focus of attention and causal attributions of actors and observers. Journal of Experimental Social Psychology, 1975, 11, 427-438.

Arnkoff, D.B., & Stewart, J. The effectiveness of modeling and videotape feedback on personal problem solving. Behavior Research and Therapy, 1975, 13, 127-133.

Azrin, N.H., Nastef, B.J., & Jones, R. Reciprocity counselling: A rapid learning-based procedure for marital counselling. Behavior Research and Therapy, 1973, 11, 365-382.

Bailey, K.G., Deardorff, P., & Nay, W.R. Students play therapist: Relative effects of role playing, videotape feedback and modelling in a simulated interview. Journal of Consulting and Clinical Psychology, 1977, 45, 257-266.

Bailey, K.G., & Sowder, W.T. Self confrontation in psychotherapy. Psychological Bulletin, 1970, 74, 127-137.

Bandura, A. Social learning theory. Englewood Cliffs, New Jersey: Prentice-Hall, 1977.

Bandura, A. On paradigms and recycled ideologies. Cognitive Therapy and Research, in press.

Beck, D.F. Research findings on the outcome of marital counselling. Social Casework, 1975, 55, 153-181.

Beckman, L.J. Effects of students' performance on teachers' and observers' attributions of causality. Journal of Educational Psychology, 1970, 61, 76-82.

Bell, R.R. Marriage and family interaction (4th ed.). Homewood, Illinois: Dorsey, 1975.

Bem, D.J. Self perception theory. In L. Berkovitz (Ed.), Advances in experimental social psychology (Vol. 6). New York: Academic Press, 1972.

Bergin, A.E. The evaluation of therapeutic outcomes. In A.E. Bergin,& S.C. Garfield (Eds.), Handbook of psychotherapy and behavior change: An empirical analysis. New York: Wiley, 1971.

Bernard, J. The future of marriage. New York: World, 1972.

Berne, E. Games people play. New York: Grove Press, 1964.

Bienvenu, M.J. Measurement of marital communication. Family Coordinator, 1970, 19, 26-31.

Birchler, G.R., Weiss, R.L., & Vincent, J. P. A multi-method analysis of social reinforcement exchange between maritally distressed and non distressed spouse and stranger dyads. Journal of Personality and Social Psychology, 1975, 31, 349-360.

Boyd, H., & Sisney, V. Immediate self-image confrontation and changes in self concept. Journal of Consulting Psychology, 1967, 31, 291-296.

Bradley, G.W. Self-serving biases in the attribution process: A reexamination of the fact or fiction question. Journal of Personality and Social Psychology, 1978, 36, 56-71.

Brehm, J., & Cole, A. Effects of a favor which reduces freedom. Journal of Personality and Social Psychology, 1966, 3, 420-426.

Burgess, E.W., Locke, J.J. & Thomes, M.M. The family: From institution to companionship. New York: Van Nostrand, 1971.

Carter, R.D., & Thomas, E.J. Modification of problematic marital communication using corrective feedback and instruction. Behavior Therapy, 1973, 4, 100-109.

Christensen, A., Arkowitz, H., & Anderson, J. Practice dating as treatment for college dating inhibitions. Behavior Research and Therapy, 1975, 13, 321-331.

Cronbach, L.J. Processess affecting scores on "understanding others" and "assumed similarity". Psychological Bulletin, 1957, 52, 177-193.

Danet, B.N. Self confrontation in psychotherapy reviewed. American Journal of Psychotherapy, 1968, 22, 245-258.

Dornbush, S.M., Hastorf, A.H., Richardson, S.A., Muzzy, R.E., & Vreeland, R.S. The perceiver and perceived: Their relative influence on categories of interpersonal perception. Journal of Personality and Social Psychology, 1965, 1, 434-440.

Duval, S. & Wicklund, R.A. A theory of objective self-awareness. New York: Academic, 1972.

Eisler, R.M., & Hersen, M., Behavioral techniques in family oriented crisis intervention. Archives of General Psychiatry, 1973, 28, 111-116.

Eisler, R.M., Hersen, M. & Agras, W.S. Effects of videotape and instructional feedback on nonverbal marital interaction: An analog study. Behavior Therapy, 1973, 4, 551-558.

Eisler, R.M., Hersen, M., & Miller, P.M. Shaping components of assertive behavior with instructions and feedback. American Journal of Psychiatry, 1974, December, 1344-1347.

Eisler, R.M., Hersen, M., Miller, P.M., & Blanchard, E.B. Situational determinants of assertive behaviors. Journal of Consulting and Clinical Psychology, 1975, 43, 330-340.

Eisler, R.M., Miller, P.M., Hersen, M., & Alford, H. Effects of assertive training on marital interaction. Archives of General Psychiatry, 1974, 30, 643-649.

Ely, A., Guerney, B.G., & Stover, L. Efficacy of the training phase of conjugal therapy. Psychotherapy: Theory, Research and Practice, 1973, 10, 201-207.

Frank, E., & Kupfer, D.J. In every marriage there are two marriages. Journal of Sex and Marital Therapy, 1976, 2, 137-143.

Frankel, M. Effects of videotape modeling and self-confrontation techniques on microcounselling behavior. Journal of Counselling Psychology, 1971, 18, 465-471.

Fuller, F.F.,& Manning, B.A. Self-confrontation reviewed: A conceptualization for video playback in teacher education. Review of Educational Research, 1973, 43, 469-528.

Glass, C., Gottman, J., & Shmurak, S. Response acquisition and cognitive self statement modification approaches to dating skills training. Journal of Counselling Psychology, 1976, 23, 520-526.

Glick, B.R.,& Gross, S.G. Marital interaction and marital conflict: A critical evaluation of current research strategies. Journal of Marriage and the Family, 1975, 37, 505-512.

Goldfried, M.R., & Davison, G.C. Clinical behavior therapy. New York: Holt, Rinehart & Winston, 1976.

Goldstein, A. P., Martens, J., Hubben, J., VanBelle, H., Schaaf, W., Wiersma, H., & Goedhart, A. The use of modeling to increase independent behavior. Behavior Research and Therapy, 1973, 11, 31-42.

Goodrich, D.W., & Boomer, D.S. Experimental assessment of modes of conflict resolution. Family Process, 1963, 2, 15-24.

Gottman, J., Notarius, C., Markman, H., Bank, S., & Yoppi, B. Behavior exchange theory and marital decision-making. Journal of Personality and Social Psychology, 1976, 34, 14-23.

Greene, B.L. A clinical approach to marital problems. Springfield, Illinois: C.C. Thomas, 1970.

Greer, S.E., & D'Zurilla, T.J. Behavioral approaches to marital discord and conflict. Journal of Marriage and Family Counselling, 1975, October, 299-315.

Gurin, G., Veroff, J., & Feld, S. Americans view their mental health. New York: Basic Books, 1960.

Gurman, A.S. Couples' facilitative communication skill as a dimension of marital therapy outcome. Journal of Marriage and Family Counselling, 1975, 1, 163-174.

Gurman, A.S., & Kniskern, D.P. Research on marital and family therapy: Progress, perspective and prospect. In S.L. Garfield, and A.E. Bergin (Eds.), Handbook of psychotherapy and behavior change: An empirical analysis (2nd ed.). New York: Wiley, in press.

Gurman, A.S., & Knudson, R.M. Behavioral marriage therapy: I. A psychodynamic-systems critique and reconsideration. Family Process, in press.

Haley, J. Family therapy: A radical change. In J. Haley (Ed.), Changing families. New York: Grune and Stratton, 1971.

Harrell, J., & Guerney, B. Training married couples in conflict negotiation skills. In D.H.L. Olson (Ed.), Treating relationships. Lake Mills, Iowa: Graphic, 1976.

Hartson, D.J., & Kunce, J.T. Videotape replay and recall in group work. Journal of Counselling Psychology, 1973, 20, 437-441.

Harvey, J.G., Harris, B., & Barnes, R.D. Actor-observer differences in the perceptions of responsibility and freedom. Journal of Personality and Social Psychology, 1975, 32, 22-28.

Hastorf, A.H., & Cantril, H. They saw a game: A case study. Journal of Abnormal and Social Psychology, 1954, 49, 129-134.

Hastorf, A.H., Schneider, D.J., & Polefka, J. Person perception. Reading, Mass.: Addison, 1970.

Heider, F. The psychology of interpersonal relations. New York: Wiley, 1958.

Hersen, M., & Bellack, A.S. Social skills training for chronic psychiatric patients: Rationale, research findings and future directions. Comprehensive Psychiatry, 1976, 17, 559-580.

Hersen, M., & Bellack, A.S. Assessment of social skills. In A.R. Ciminero, K.S.Calhoun, & A. Adams (Eds.), Handbook for behavioral assessment. New York: Wiley, 1977.

Hersen, M., & Eisler, R.M. Social skills training. In W. E. Craighead, A.E. Kazdin, & M.J. Mahoney (Eds.), Behavior modification: Principles, issues and applications. Boston: Houghton Mifflin, 1976.

Hersen, M., Eisler, R.M.,Miller, P.M., Johnson, M.B., & Pinkston, S.G. Effects of practice, instructions and modeling on components of assertive behavior. Behavior Research and Therapy, 1973, 11, 443-451.

Higgins, W.J., Ivey, A.E., & Uhlemann, M.R. Media therapy: A programmed approach to teaching behavioral skills. Journal of Counselling Psychology, 1970, 17, 20-26.

Hoffman, L.W. Changes in family roles, socialization and sex differences. American Psychologist, 1977, 32, 644-657.

Holzman, P.S. On hearing and seeing oneself. Journal of Nervous and Mental Disease, 1969, 148, 198-209.

Hurvitz, N. Interaction hypotheses in marriage counselling. In A.S. Gurman & D.G. Rice, Couples in conflict. New York: Jason Aronson, 1975.

Ivey, A.E. Media therapy: Educational change planning for psychiatric patients. Journal of Counselling Psychology, 1973, 20, 338-343.

Jacob, T. Assessment of marital dysfunction. In M. Hersen & A.S. Bellack (Eds.), Behavioral assessment: A practical handbook. New York: Pergamon, 1976.

Jacob, T., & Davis, J. Family interaction as a function of experimental task. Family Process, 1973, 12, 415-427.

Jacobson, N.S. Problem-solving and contingency contracting in the treatment of marital discord. Journal of Consulting and Clinical Psychology, 1977, 45, 92-100.

Jacobson, N.S. Specific and non-specific factors in the effectiveness of a behavioral approach to the treatment of marital discord. Journal of Consulting and Clinical Psychology, in press.

Jacobson, N.S.,& Martin, B. Behavioral marriage therapy: Current status. Psychological Bulletin, 1976, 83, 540-556.

Jacobson, N.S., & Weiss, R.L. Behavioral marriage therapy: "The contents of Gurman et al. may be hazardous to our health". Family Process, in press.

Johnson, S.M., & Bolstad, O.D. Methodological issues in naturalistic observation: Some problems and solutions for field research. In L.A. Hamerlynck, L.C. Handy, & E.J. Mash (Eds.), Behavior change methodology, concepts and practice. Champaign, Illinois: Research Press, 1973.

Johnson, S.M., & White, G. Self observation as an agent of behavioral change. Behavior Therapy, 1971, 2, 488-497.

Jones, E.E. How do people perceive the causes of behavior? American Scientist, 1976, 64, 300-305.

Jones, E.E., & Davis, K.E. From acts to dispositions: The attribution process in person perception. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 2). New York: Academic Press, 1965.

Jones, E.E., & Nisbett, R.E. The actor and the observer: Divergent perceptions of the causes of behavior. In E.E. Jones, D.E.Kanouse, H.H. Kelley, R.E. Nisbett, S. Valins, and B. Weiner (Eds.), Attribution: Perceiving the causes of behavior. New Jersey: General Learning Press, 1972.

Kagan, N., Krathwohl, D.R., & Miller, R. Stimulated recall in therapy using videotape: A case study. Journal of Counselling Psychology, 1963, 10, 237-243.

Kazdin, A.E. Behavior modification in applied settings. Illinois: Dorsey, 1975.

Kazdin, A.E., Bootzin, R. The token economy: An evaluative review. Journal of Applied Behavior Analysis, 1972, 5, 343-372.

Kelley, H.H. The processes of causal attribution. American Psychologist, 1973, 28, 107-128.

Kent, R., & Foster, S. Direct observational procedures: Methodological issues in natural settings. In A.R. Ciminero, K.S. Calhoun, & A.Adams (Eds.), Handbook for behavioral assessment. New York: Wiley, in press.

Kiesler, D. Some myths of psychotherapy research and the search for a paradigm. Psychological Bulletin, 1966, 65, 110-136.

Kimmel, D., & Van der Veen, F. Factors of marital adjustment in Locke's Marital Adjustment Test. Journal of Marriage and the Family, 1974, 36, 57-63.

Knox, D. Marriage happiness. Champaign, Illinois: Research Press, 1972.

Kopel, S., & Arkowitz, H. The role of attribution and self-perception in behavior change: Implications for behavior therapy: Genetic Psychology Monographs, 1975, 92, 175-212.

Kruglanski, A.W. The endogenous-exogenous partition in attribution theory. Psychological Review, 1975, 82, 387-406.

Laing, R.D., Phillipson, H., & Lee, A.R. Interpersonal perception. New York: Springer, 1966.

Laws, J.L. A feminist view of marital adjustment. In A.S. Gurman & D.G. Rice (Eds.), Couples in conflict. New York: Jason Aronson, 1975.

Lay, C., Ziegler, M., Hershfield, L., & Miller, D. The perception of situational consistency in behavior: Assessing the actor-observer bias. Canadian Journal of Behavioral Science, 1974, 6, 377-384.

Lehman-Olson, D. Assertiveness training: Theoretical and clinical implications. In D.H. Olson (Ed.), Treating relationships. Lake Mills, Iowa: Graphic, 1976.

Liberman, R.P., Levine, J., Wheeler, E., Sanders, N., & Wallace, C. Marital therapy in groups: A comparative evaluation of behavioral and interactional formats. Acta Psychiatrica Scandinavica, 1976, 266, 1-34.

Lipinski, D., & Nelson, R. The reactivity and unreliability of self-recording. Journal of Consulting and Clinical Psychology, 1974, 42, 118-123.

Locke, H.J., & Wallace, K.M. Short marital adjustment and prediction tests: Their reliability and validity. Marriage and Family Living, 1959, 21, 251-255.

Mahoney, M.J. Reflections on the cognitive-learning trend in psychotherapy. American Psychologist, 1977, 32, 5-13.

Mahoney, M.J., & Arnkoff, D.B. Cognitive and self control therapies. In S.L. Garfield & A.E. Bergin (Eds.), Handbook of psychotherapy and behavior change (2nd ed.). New York: Wiley, in press.

Mann, J.F. Cognitive, behavioral and situational determinants of ethnic perception. (Doctoral dissertation, McGill University, 1976). Dissertation Abstracts International, 1976, 37, 5860.

Mann, J.F., & Taylor, D.M. Attribution of causality: Role of ethnicity and social class. Journal of Social Psychology, 1974, 94, 3-13.

Mann, R. Assessment of behavioral excesses in children. In M. Hersen & A.S. Bellack (Eds.), Behavioral assessment: A practical handbook. New York: Pergamon, 1976.

Marks, S.E., Montgomery, J.S., & Davis, W.L. Videotape recording in counselling: "What we know and where to find it." Canadian Counsellor, 1975, 9, 31-44.

Martin, S., Johnson, S.M., Johansson, S., & Wahl, G. The comparability of behavioral data in laboratory and natural settings. In E.Mash, L. Hamerlynck, & L. Handy (Eds.), Behavior modification in families. New York: Brunner/Mazel, 1976.

Mayadas, N.S., & Duehn, W.D. Stimulus-modeling (SM) videotape for marital counselling: Method and application. Journal of Marriage and Family Counselling, 1977, 3, 35-42.

McFall, R.M., & Lillesand, D.B. Behavior rehearsal with modeling and coaching in assertion training. Journal of Abnormal Psychology, 1971, 77, 313-323.

McFall, R.M., & Twentyman, C.T. Four experiments on the relative contribution of rehearsal, modeling and coaching to assertion training. Journal of Abnormal Psychology, 1973, 81, 199-218.

Meichenbaum, D. Cognitive behavior modification. Morristown, New Jersey: General Learning Press, 1977.

Melnick, J. A comparison of replication techniques in the modification of minimal dating behavior. Journal of Abnormal Psychology, 1973, 81, 51-59.

Miller, D.T., & Norman, S.A. Actor-observer differences in perceptions of effective control. Journal of Personality and Social Psychology, 1975, 31, 503-515.

Miller, D.T., & Ross, M. Self-serving biases in the attribution of causality: Fact or fiction? Psychological Bulletin, 1975, 82, 213-225.

Miller, S., Nunnally, E.W., & Wackman, D.B. Minnesota Couples Communication Program (MCCP): Premarital and marital groups. In D.H. Olson (Ed.), Treating Relationships. Lake Mills, Iowa: Graphic, 1976.

Minuchin, S. Families and family therapy. Cambridge, Mass.: Harvard University Press, 1974.

Mischel, W. Toward a cognitive social learning reconceptualization of personality. Psychological Review, 1973, 80, 252-283.

Monson, T.C., & Snyder, M. Actors, observers, and the attribution process: Toward a reconceptualization. Journal of Experimental Social Psychology, 1977, 13, 89-111.

Moore, F.J., Chernell, E., & West, M.J. Television as a therapeutic tool. Archives of General Psychiatry, 1965, 12, 117-120.

Murphy, D., & Mendelson, L. Use of the observational method in a study of live marital communication. Journal of Marriage and the Family, 1973, May, 256-263.

Murstein, B.I., & Beck, G.D. Person perception, marriage adjustment and social desirability. Journal of Consulting and Clinical Psychology, 1972, 39, 396-403.

Navran, L. Communication and adjustment in marriage. Family Process, 1967, 6, 173-180.

Newtson, D. Foundations of attribution: The perception of ongoing behavior. In J.H. Harvey, W.J. Ickes, & R.F. Kidd (Eds.), New directions in attribution research (Vol. 1). Hillsdale, New Jersey: Erlbaum, 1976.

Nisbett, R.E., Caputo, C., Legant, P., & Marecek, J. Behavior as seen by the actor and as seen by the observer. Journal of Personality and Social Psychology, 1973, 27, 154-164.

O'Leary, K.D., & Kent, R. Behavior modification for social action: Research tactics and problems. In L.A. Hamerlynck, L.C. Handy, & E.J. Mash (Eds.), Behavior change methodology, concepts and practice. Champaign, Illinois: Research Press, 1973.

Olson, D.H. The powerlessness of family power: Empirical and clinical considerations. Science and Psychoanalysis, 1972, 20, 139-147.

Olson, D.H., & Rabunsky, C. Validity of four measures of family power. Journal of Marriage and the Family, 1972, 34, 224-234.

Olson, D.H., & Ryder, R.G. Inventory of marital conflicts (IMC): An experimental interaction procedure. Journal of Marriage and the Family, 1970, 32, 443-448.

Olson, D.H., & Straus, M.A. A diagnostic tool for marital and family therapy: The SIFAM technique. Family Coordinator, 1972, July, 25-28.

Orvis, B.R., Kelley, H.H., & Butler, D. Attributional conflict in young couples. In J.H. Harvey, W.J. Ickes, & R.F. Kidd (Eds.), New directions in attribution research (Vol. 1), Hillsdale, N.J.: Erlbaum, 1976.

Parades, A., Gottheil, E., Tausig, T.N., & Cornelison, F.S. Behavioral changes as a function of repeated self observation. Journal of Nervous and Mental Disease, 1969, 148, 287-299.

Patterson, G.R., Hops, H., & Weiss, R.L. Interpersonal skills training for couples in early stages of conflict. Journal of Marriage and the Family, 1975, 37, 295-302.

Patterson, G.R., & Reid, J.B. Reciprocity and coercion: Two facets of social systems. In C. Neuringer & J. Michael (Eds.), Behavior modification in clinical psychology. New York: Appleton, 1970.

Patterson, G.R., Weiss, R.L., & Hops, H. Training of marital skills. In H. Leitenberg (Ed.), Handbook of behavior modification and behavior therapy. New York: Prentice-Hall, 1976.

Plutchik, R. Foundations of experimental research (2nd ed.). New York: Harper & Row, 1974.

Pryor, J.B., & Kriss, M. The cognitive dynamics of salience in the attribution process. Journal of Personality and Social Psychology, 1977, 35, 49-55.

Raush, H.L., Barry, W.A., Hertel, R.K., & Swain, M.A. Communication, conflict and marriage. California: Jossey Bass, 1974.

Regan, D.T., Straus, E., & Fazio, R. Liking and the attribution process. Journal of Experimental Social Psychology, 1974, 10, 385-397.

Regan, T., & Totten, G. Empathy and attribution: Turning observers into actors. Journal of Personality and Social Psychology, 1975, 32, 850-856.

Reivich, R.S., & Geertsma, R.H. Experiences with videotape self observation by psychiatric inpatients. Journal of the Kansas Medical Society, 1968, 69, 39-44.

Reid, J.B. Reliability assessment of observation data: A possible methodological problem. Child Development, 1970, 41, 1143-1150.

Renne, K.S. Correlates of dissatisfaction in marriage. Journal of Marriage and the Family, 1970, February, 54-67.

Rich, A., & Schroeder, H.E. Research issues in assertiveness training. Psychological Bulletin, 1976, 83, 1081-1096.

Riemer, B.S. Influence of causal beliefs on affect and expectancy. Journal of Personality and Social Psychology, 1975, 31, 1163-1167.

Romanczyk, R.G., Kent, R.N., Diament, D., & O'Leary, K.D. Measuring the reliability of observational data: A reactive process. Journal of Applied Behavior Analysis, 1973, 6, 175-184.

Rosenthal, R. Experimenter effects in behavioral research. New York: Appleton, 1966.

Ross, L. The intuitive psychologist and his shortcomings: Distortions in the attribution process. Advances in experimental social psychology (Vol. 10). New York: Academic, 1977.

Ross, L., Amaible, T., & Steinmetz, J. Social roles, social control, and biases in social perception processes. Journal of Personality and Social Psychology, 1977, 35, 485-494.

Royce, W.S., & Weiss, R.L. Behavioral cues in the judgment of marital satisfaction: A linear regression analysis. Journal of Consulting and Clinical Psychology, 1975, 43, 816-824.

Rubin, Z., & Mitchell, C. Couples research as couples counselling: Some unintended effects of studying close relationships. American Psychologist, 1976, 31, 17-25.

Safilios-Rothschild, C. A macro- and micro-examination of family power and love: An exchange model. Journal of Marriage and the Family, 1976, 38, 355-362.

Satir, V. Conjoint family therapy: A guide to theory and technique. Palo Alto: Science and Behavior Books, 1964.

Schlenker, B. Self-presentation: Managing the impression of consistency when reality interferes with self enhancement. Journal of Personality and Social Psychology, 1975, 32, 1030-1037.

Schwartz, E.K., & Leder, R. The woman in the family. In H.L. Silverman (Ed.), Marital therapy: Moral, sociological and psychological factors. Springfield, Ill.: Charles C. Thomas, 1972.

Serber, M. Teaching the nonverbal components of assertive training. Journal of Behavior Therapy and Experimental Psychiatry, 1972, 3, 179-183.

Shaver, K.G. An introduction to attribution processes. Cambridge, Mass.: Winthrop, 1975.

Sicoly, F., & Ross, M. Facilitation of ego biased attributions by means of self-serving observer feedback. Journal of Personality and Social Psychology, 1977, 35, 734-741.

Simard, L.M., Taylor, D.M., & Giles, H. Attribution processes in interpersonal accommodation in a bilingual setting. Language and Speech, 1976, 19, 374-387.

Stephan, W.G. Actor versus observer: Attributions to behavior with positive or negative outcomes and empathy for the other's role. Journal of Experimental and Social Psychology, 1975, 11, 205-214.

Stierlin, H. Family theory: An introduction. In A. Burton (Ed.), Operational theories of personality. New York: Brunner/Mazel, 1974.

Storms, M.D. Videotape and the attribution process: Reversing actors' and observers' points of view. Journal of Personality and Social Psychology, 1973, 27, 165-175.

Streufert, S., & Streufert, S.C. Effects of conceptual structure, failure, and success on attribution of causality and interpersonal attitudes. Journal of Personality and Social Psychology, 1969, 11, 138-147.

Strodtbeck, F.L. Husband-wife interaction over revealed difference. American Sociological Review, 1951, 16, 468-473.

Stuart, R.B. Behavioral remedies for marital ills: A guide to use of operant interpersonal techniques. In A.S. Gurman & D.G. Rice (Eds.), Couples in conflict: New directions in marital therapy. New York: Jason Aronson, 1975.

Taplin, P.S., & Reid, J.B. Effects of instructional set and experimenter influence on observer reliability. Child Development, 1973, 44, 547-554.

Taylor, S. On inferring one's attitudes from one's behavior: Some delimiting conditions. Journal of Personality and Social Psychology, 1975, 31, 126-131.

Taylor, S., & Fiske, S.T. Point of view and perceptions of causality. Journal of Personality and Social Psychology, 1975, 32, 439-445.

Taylor, S., & Koivumaki, J.H. The perception of self and others: Acquaintanceship, affect, and actor-observer differences. Journal of Personality and Social Psychology, 1976, 33, 403-408.

Thibaut, J.W., & Kelley, H.H. The social psychology of groups. New York: Wiley, 1959.

Thomas, E.J. Marital communication and decision making. New York: Free Press, 1977.

Thomas, E.J., Walter, C.L., & O'Flaherty, K. A verbal problem checklist for use in assessing family verbal behavior. Behavior Therapy, 1974, 5, 235-246.

Thoresen, C.E., & Mahoney, M.J. Behavioral self control. New York: Holt, Rinehart & Winston, 1974.

Triandis, H.C. Interpersonal behavior. Monterey, California: Brooks/Cole, 1977.

Valle, S.K., & Marinelli, R.P. Training in human relations skills as a preferred mode of treatment for married couples. Journal of Marriage and Family Counselling, 1975, 1, 359-365.

Vincent, J.P. The relationships of sex, level of intimacy, and marital distress to problem-solving behavior and exchange of social reinforcement (Doctoral dissertation, University of Oregon, 1972). Dissertation Abstracts International, 1973, 33, 6095. (University Microfilms, No. 73-13, 778).

Vincent, J.P., Weiss, R.L., & Birchler, G.R. A behavioral analysis of problem solving in distressed and nondistressed married and stranger dyads. Behavior Therapy, 1975, 6, 475-487.

Watzlawick, P., Beavin, J., & Jackson, D.D. Pragmatics of human communication. New York: Norton, 1967.

Wegner, D.M., & Finstuen, K. Observers' focus of attention in the simulation of self perception. Journal of Personality and Social Psychology, 1977, 35, 56-62.

Weiner, B. Achievement motivation and attribution theory. Morristown, New Jersey: General Learning Press, 1974.

Weiner, B., & Sierad, J. Misattribution for failure and enhancement of achievement strivings. Journal of Personality and Social Psychology, 1975, 31, 415-421.

Weinrott, M. Observation training and practice: Effects on perception and behavior change. (Doctoral dissertation, McGill University, 1975). Dissertation Abstracts International, 1976, 36, 5291.

Weiss, R.L., Birchler, G.R., & Vincent, J.P. Contractual models for negotiation training in marital dyads. Journal of Marriage and the Family, 1974, 36, 321-330.

Weiss, R.L., Hops, H., & Patterson, G.R. A framework for conceptualizing marital conflict, a technology for altering it, some data from evaluating it. In L.A. Hamerlynck, L.C. Handy, & E.J. Mash (Eds.), Behavior change methodology, concepts and practice. Champaign, Illinois: Research Press, 1973.

Weiss, R.L., & Margolin, G. Assessment of marital conflict and accord. In A.R. Ciminero, K.S. Calhoun, & A. Adams (Eds.), Handbook for behavioral assessment. New York: Wiley, 1977.

Wells, R.A., Figurel, J.A., & McNamee, P. Group facilitative training with conflicted marital couples. In A.S. Gurman, & D.G. Rice (Eds.), Couples in conflict: New directions in marital therapy. New York: Aronson, 1975.

Wills, T.A., Weiss, R.L., & Patterson, G.R. A behavioral analysis of the determinants of marital satisfaction. Journal of Consulting and Clinical Psychology, 1974, 42, 802-811.

Winer, B.J. Statistical principles in experimental design (2nd ed.). New York: McGraw-Hill, 1971.

Wright, J. A comparison of systematic desensitization and social skill acquisition in the modification of a social fear. Behavior Therapy, 1976, 7, 205-210.

Wright, J., & Fichten, C. Denial of responsibility, videotape feedback and attribution theory: Relevance for behavioral marital therapy. Canadian Psychological Review, 1976, 17, 219-230.

Wright, J., & Mathieu, M. Problèmes du couple. In R. Ladouceur, M.A. Bouchard, & L. Granger (Eds.), Principes et applications des therapies behaviorales. St. Hyacinthe, Québec: Edisem, 1977.

Zajonc, R.B. Cognitive theories in social psychology. In G. Lindzey, & E. Aronson (Eds.), Handbook of social psychology. Reading, Mass.: Addison-Wesley, 1968.

Zeichner, A., Wright, J., & Herman, S. Effects of situation on dating and assertive behavior. Psychological Reports, 1977, 40, 375-381.

McGill University
Behavior Therapy Unit
Allan Memorial Institute (514) 842-1231 local 1627-1628

Selection Measures and Initial Mailing Questionnaires

COVER LETTER

Dear

Thank you for showing interest in participating in our research on marital communication. We are enclosing a number of questionnaires which constitute the first phase of the research. It is very important that each partner fill out the forms individually, and we ask that you not discuss your answers before mailing them to us. Couples will be placed on a list of subjects in the order in which we receive the questionnaires. We are currently running a long series of studies, and are looking at the communication patterns of couples from a wide range of adjustment. Therefore, the most important thing to remember when completing the forms is to try to give us as honest a picture of your relationship as possible. You do not have to fit into one "type" of couple in order to be eligible to take part in our studies.

Participation in the study will require approximately three hours of your time. Both partners will have to attend together, since we are interested in studying interaction. To facilitate this, we are running sessions in the evenings and on the weekends, as well as during the regular working day. Please indicate whether you are able to attend during the day, or only on a weekend or an evening, when returning the forms.

In closing, we must remind all couples that if you participate, you will be taking part in research, not receiving therapy. However, all participating couples will have an opportunity to see themselves on videotape and to discuss marriage and patterns of communication with a professional; couples generally find the study interesting and learn something about communication.

All information provided is strictly confidential and available only to the researchers. Any public report of the findings of the study will not include names of any of the participants. Further details of the study will be given when you are contacted by the researcher.

Sincerely,

Catherine Fichten, M.A. John Wright, Ph.D.

Postal address: 1033 Pine Avenue West, Montreal, PQ, Canada H3A 1A1

BACKGROUND INFORMATION SHEET

This form may be completed by either the husband or the wife. Please be sure to attach it to the forms which you are mailing back to us.

Name: _____
(Please Print)

Address: _____
(Please Print)

Phone # where we may contact you: _____
(Day) (Evening)

Age: Wife: _____ Husband: _____ Years married: _____

Any previous marriages?

___No. If yes, please circle as appropriate: Wife was: Divorced Widowed
Husband was: Divorced Widowed

Children:	Name	Age	Sex	Living at home Yes/No

Occupation: Wife:
Husband:

Education Level: Wife:
Husband:

Have you ever received therapy for a marital problem? (if yes, specify)

When are the two of you available for the study? Please circle as many as apply:

Daytime Evening Weekend

MARITAL ADJUSTMENT SCALE[1]

1.Circle the dot which you feel best represents the degree of happiness in your marriage. The middle point "happy" represents the degree of happiness which most people get from marriage, and the scale gradually ranges on one side to those few who are very unhappy in marriage, and on the other, to those few who experience extreme joy or felicity in marriage.

very unhappy — happy — perfectly happy

Indicate the approximate extent of agreement between you and your mate on the following items.

Check one column for each item below	always agree	almost always agree	occasionally disagree	frequently disagree	almost always disagree	always disagree
2.handling family finances						
3.matters of recreation						
4.demonstration of affection						
5.friends						
6.sex relations						
7.conventionality (right, good or proper conduct)						
8.philosophy of life						
9.ways of dealing with in-laws						

Reply to each question by circling the letter next to the appropriate answer. If you cannot give an exact answer to a question, answer the best you can. Do not leave out any questions.

10.When disagreements arise, they usually result in:
a. husband giving in
b. wife giving in
c. agreement by mutual give and take

11.Do you and your mate engage in outside interests together?
a. all of them
b. some of them
c. very few of them
d. none of them

12.1 In leisure time, do you generally prefer:
a. to stay at home
b. to be "on the go"

12.2 In leisure time, does your mate generally prefer:
a. to stay at home
b. to be "on the go"

13.Do you ever wish you had not married?
a. frequently
b. occasionally
c. rarely
d. never

14.If you had your life to live over, do you think you would:
a. marry the same person
b. marry a different person
c. not marry at all

15.Do you confide in your mate:
a. almost never
b. rarely
c. in most things
d. in everything

[1] From Locke and Wallace (1959)

Primary Communication Inventory [1]

Instructions: Below is a list of items on communication between you and your spouse In the columns on the right are five possible answers Opposite each item place a check in the column which best represents the extent to which you and your spouse behave in the specified way

Item	Very Frequently	Frequently	Occasionally	Seldom	Never
1. How often do you and your spouse talk over pleasant things that happen during the day?					
2 How often do you and your spouse talk over unpleasant things that happen during the day?					
3. Do you and your spouse talk over things you disagree about or have difficulties over?					
4 Do you and your spouse talk about things in which you are both interested?					
5 Does your spouse adjust what he (she) says and how he (she) says it to the way you seem to feel at the moment?					
6 When you start to ask a question, does your spouse know what it is before you ask it?					
7 Do you know the feelings of your spouse from his (her) facial and bodily gestures?					
8 Do you and your spouse avoid certain subjects in conversation?					
9 Does your spouse explain or express himself (herself) to you through a glance or gestures?					
10. Do you and your spouse discuss things together before making an important decision?					
11 Can your spouse tell what kind of day you have had without asking?					
12 Your spouse wants to visit some close friends or relatives You don't particularly enjoy their company Would you tell him (her) this?					
13 Does your spouse discuss matters of sex with you?					
14. Do you and your spouse use words which have a special meaning not understood by outsiders?					
15. How often does your spouse sulk or pout?					
16. Can you and your spouse discuss your most sacred beliefs without feelings of restraint or embarrassment?					
17. Do you avoid telling your spouse things which put you in a bad light?					

18 You and your spouse are visiting friends. Something is said by the friends which causes you to glance at each other. Would you understand each other?					
19 How often can you tell as much from the tone of voice of your spouse as from what he (she) actually says?					
20 How often do you and your spouse talk with each other about personal problems?					
21 Do you feel that in most matters your spouse knows what you are trying to say?					
22 Would you rather talk about intimate matters with your spouse than with some other person?					
23 Do you understand the meaning of your spouse's facial expressions?					
24 If you and your spouse are visiting friends or relatives and one of you starts to say something, does the other take over the conversation without the feeling of interrupting?					
25 During marriage, have you and your spouse, in general, talked most things over together?					

[1] From Navran (1967).

COMMUNICATION RATING SCALE

This questionnaire is designed to assess your feelings and perceptions about communication between you and your spouse. In answering these questions, please base your evaluation on how you perceive the situation.

Under each question you will find a series of 8 boxes. Find the response on the 8-point scale which best corresponds to your perceptions or feelings about the item, and make an X in that box.

EXAMPLE:

You compliment your spouse

very often ☐☐☒☐☐☐☐☒ very rarely

If you were to compliment your spouse sometimes, but not really often, you would place your X in the 3rd box from the left.

If you were to compliment your spouse very rarely, you would place your X in the last box on the right hand side.

By placing your X in the first box on the left, you indicate that this behavior occurs very often. By placing it in the box next to it, you indicate that it occurs often, but not very often, and so on. The further you place your X from the left hand side (i.e. the closer to the right), the less often you feel that the behavior occurs.

PLEASE NOTE: Always indicate your answer by placing an X into a box. Choose only one box per question, and answer all questions.

---

1. Communication between you and your spouse is problematic

   very often ☐☐☐☐☐☐☐☐ very rarely

2. You and your spouse argue

   very often ☐☐☐☐☐☐☐☐ very rarely

3. Your spouse insults you

   very often ☐☐☐☐☐☐☐☐ very rarely

4. Your spouse starts arguments between the two of you

   very often ☐☐☐☐☐☐☐☐ very rarely

5. Arguments are your spouse's fault

   very often ☐☐☐☐☐☐☐☐ very rarely

6. When arguing, you feel that your spouse just doesn't understand your point of view

   very often ☐☐☐☐☐☐☐☐ very rarely

7. You start arguments between the two of you

   very often ☐☐☐☐☐☐☐☐ very rarely

8. You and your spouse argue in public

   very often ☐☐☐☐☐☐☐☐ very rarely

9. While arguing, your spouse raises his/her voice

   very often ☐☐☐☐☐☐☐☐ very rarely

10. Arguments are your fault

    very often ☐☐☐☐☐☐☐☐ very rarely

CHECKLISTS OF PERSONALITY TRAITS INFLUENCING ARGUMENTS

Checklist of Your Own Personality Traits Causing Arguments

Please place a check mark on the line beside as many of the adjectives listed below as you feel apply.

Sometimes you may feel as though you've seen the same adjective before. This will not be the case, so do not look back and forth through the list. Make a decision about each adjective independently and work at a fairly high speed.

When you and your spouse have arguments, it is partly because you are:

__dependent (254)
__self conscious (249)
__critical (243)
__conformist (241)
__silent (228)
__argumentative (227)
__forgetful (224)
__timid (222)
__gullible (219)
__indecisive (219)
__fearful (214)
__absent minded (213)
__impractical (213)
__sarcastic (210)
__unemotional (209)
__worrier (205)
__unhappy (203)
__indifferent (202)
__clumsy (199)
__insecure (198)
__unhealthy (197)
__nervous (196)
__stubborn (196)
__unimaginative (195)
__unobservant (194)
__inconsistent (193)
__unpunctual (192)
__superstitious (189)
__possessive (183)
__moody (182)
__oversensitive (179)
__untidy (175)
__noisy (173)
__angry (169)
__unintelligent (168)
__domineering (167)
__depressed (166)
__pessimistic (164)
__unattentive (164)
__overconfident (162)
__unsociable (161)
__wasteful (160)
__short tempered (159)
__envious (157)
__overcritical (157)
__dominating (153)
__sloppy (153)
__unsympathetic (153)
__hot tempered (152)
__fault finding (148)
__uninteresting (146)
__irritable (143)
__careless (140)
__gloomy (136)
__disagreeable (134)
__disobedient (128)
__complaining (127)
__lazy (126)
__unappreciative (126)
__boastful (122)
__gossipy (119)
__irritating (118)
__egotistical (116)
__cold (113)
__cowardly (110)
__discourteous (110)
__ungrateful (109)
__irresponsible (106)
__prejudiced (106)
__jealous (104)
__unpleasant (104)
__unreliable (104)
__impolite (103)
__nosey (102)
__quarrelsome (101)
__distrustful (99)
__boring (97)
__self centered (96)
__ill mannered (95)
__unfriendly (92)
__hostile (91)
__loud mouthed (83)
__selfish (82)
__narrow minded (80)
__rude (76)
__conceited (74)
__greedy (72)

Now look through those items which you have checked, and put a circle around those 5 which you feel are the most important.

If there are any additional factors, please list these below.

_____

_____

_____

_____

_____

Note. Numbers in parentheses indicate social desirability values (from Anderson (1968)).

Checklist of Your Spouse's Personality Traits Causing Arguments

Please place a check mark on the line beside as many of the adjectives listed below as you feel apply.

Sometimes you may feel as though you've seen the same adjective before. This will not be the case, so do not look back and forth through the list. Make a decision about each adjective independently, and work at a fairly high speed.

When you and your spouse have arguments, it is partly because your spouse is:

__dependent
__self conscious
__critical
__conformist
__silent
__argumentative
__forgetful
__timid
__gullible
__indecisive
__fearful
__absent minded
__impractical
__sarcastic
__unemotional
__worrier
__unhappy
__indifferent
__clumsy
__insecure
__unhealthy
__nervous
__stubborn
__unimaginative
__unobservant
__inconsistent
__unpunctual
__superstitious
__possessive
__moody
__oversensitive
__untidy
__noisy
__angry
__unintelligent
__domineering
__depressed
__pessimistic
__unattentive
__overconfident
__unsociable
__wasteful
__short tempered
__envious
__overcritical
__dominating
__sloppy
__unsympathetic
__hot tempered
__fault finding
__uninteresting
__irritable
__careless
__gloomy
__disagreeable
__disobedient
__complaining
__lazy
__unappreciative
__boastful
__gossipy
__irritating
__egotistical
__cold
__cowardly
__discourteous
__ungrateful
__irresponsible
__prejudiced
__jealous
__unpleasant
__unreliable
__impolite
__nosey
__quarrelsome
__distrustful
__boring
__self centered
__ill mannered
__unfriendly
__hostile
__loud mouthed
__selfish
__narrow minded
__rude
__conceited
__greedy

Now look through those items which you have checked, and put a circle around those 5 which you feel are the most important.

If there are any additional factors, please list these below.

_____

_____

_____

_____

_____

Checklist of Your Own Personality Traits Preventing Arguments

Please place a check mark on the line beside as many of the adjectives listed below as you feel apply.

Sometimes you may feel as though you've seen the same adjective before. This will not be the case, so do not look back and forth through the list. Make a decision about each adjective independently, and work at a fairly high speed.

When you and your spouse prevent arguments between the two of you, it is partly because your spouse is:

__bold (336)
__painstaking (345)
__deliberate (345)
__unconventional (346)
__persistent (347)
__excited (351)
__talkative (352)
__proud (358)
__daring (360)
__systematic (366)
__nonconforming (369)
__sentimental (371)
__thrifty (372)
__obedient (373)
__persuasive (374)
__serious (379)
__idealistic (384)
__self critical (389)
__careful (390)
__orderly (399)
__confident (401)
__calm (406)
__self assured (411)
__outgoing (412)
__easygoing (412)
__inquisitive (413)
__studious (418)
__self confident (421)
__practical (425)
__tidy (427)
__modest (428)
__sociable (429)
__curious (432)
__relaxed (439)
__competent (447)
__frank (450)
__attentive (450)
__independent (455)
__energetic (457)
__generous (459)
__amusing (460)
__tolerant (461)
__self reliant (462)
__creative (462)
__sensible (464)
__prompt (465)
__logical (465)
__punctual (466)
__neat (466)
__observant (467)
__capable (471)
__cooperative (476)
__well mannered (477)
__talented (478)
__patient (478)
__witty (480)
__alert (480)
__efficient (482)
__ambitious (484)
__forgiving (486)
__polite (489)
__enthusiastic (489)
__imaginative (492)
__helpful (492)
__courteous (494)
__pleasant (495)
__clever (496)
__broad minded (503)
__trustful (504)
__cheerful (504)
__responsible (505)
__humorous (505)
__unselfish (510)
__happy (514)
__friendly (519)
__kind (520)
__warm (522)
__reliable (527)
__considerate (527)
__thoughtful (529)
__dependable (536)
__intelligent (537)
__trustworthy (539)
__truthful (545)
__loyal (547)
__understanding (549)
__honest (555)

Now look through those items which you have checked, and put a circle around those 5 which you feel are the most important.

If there are any additional factors, please list these below.

_____

_____

_____

_____

_____

Note. Numbers in parentheses indicate social desirability values[from Anderson (1968)].

Checklist of Your Spouse's Personality Traits Preventing Arguments

Please place a check mark on the line beside as many of the adjectives listed below as you feel apply.

Sometimes you may feel as though you've seen the same adjectives before. This will not be the case, so do not look back and forth through the list. Make a decision about each adjective independently, and work at a fairly high speed.

When you and your spouse prevent arguments between the two of you, it is partly because you are:

__bold
__painstaking
__deliberate
__unconventional
__persistent
__excited
__talkative
__proud
__daring
__systematic
__nonconforming
__sentimental
__thrifty
__obedient
__persuasive
__serious
__idealistic
__self critical
__careful
__orderly
__confident
__calm
__self assured
__outgoing
__easygoing
__inquisitive
__studious
__self confident
__practical
__tidy
__modest
__sociable
__curious
__relaxed
__competent
__frank
__attentive
__independent
__energetic
__generous
__amusing
__tolerant
__self reliant

__creative
__sensible
__prompt
__logical
__punctual
__neat
__observant
__capable
__cooperative
__well mannered
__talented
__patient
__witty
__alert
__efficient
__ambitious
__forgiving
__polite
__enthusiastic
__imaginative
__helpful
__courteous
__pleasant
__clever
__broad minded
__trustful
__cheerful
__responsible
__humorous
__unselfish
__happy
__friendly
__kind
__warm
__reliable
__considerate
__thoughtful
__dependable
__intelligent
__trustworthy
__truthful
__loyal
__understanding
__honest

Now look through those items which you have checked, and put a circle around those 5 which you feel are the most important.

If there are any additional factors, please list these below.

_____

_____

_____

_____

_____

AREAS OF DISAGREEMENT[1]

The following is a list of a number of areas of married life in which couples are likely to have disagreements. Please read through each of the areas carefully. If there is a topic within an area that you and your spouse disagree over, please rate the importance of your disagreement by circling the appropriate number in the right hand column. For each area, common topics of disagreement are given as examples. If you do not have any disagreements in a particular area, check "None". Try to consider only topics that are currently relevant (i.e. do not base your ratings on a topic which used to be a problem, but which you have since resolved, and which no longer causes difficulty for either of you.) Please answer independently.

SCORING CODE

3 - mild disagreements

2 - moderate disagreements

1 - major disagreements

Running Household, Family Economics, and Family Living

1.	Finances and money management (eg. budget, credit, savings, major expenditures)	1	2	3	None ___
2.	Household management and decision making (eg. household chores, shopping, transportation)	1	2	3	None ___
3.	Husband's work (eg. poor pay, travelling, level of involvement)	1	2	3	None ___
4.	Wife's working (eg. should she work, time commitment, career conflicts)	1	2	3	None ___
5.	Child care and training (eg. discipline, caretaking, recreation)	1	2	3	None ___
6.	Family recreation and leisure time (eg. amount, type, cooperation in planning)	1	2	3	None ___
7.	Adult recreation and leisure time (eg. time together vs. apart, type of activity)	1	2	3	None ___
8.	Friends (eg. how much time to spend with them, who, being polite to disliked friends of spouse)	1	2	3	None ___

Values and Philosophy

9.	Education (eg. satisfaction with achieved level, value placed on it, support of spouse's strivings)	1	2	3	None ___
10.	Religion (eg. shared beliefs, tolerance for other's views)	1	2	3	None ___
11.	Traditional versus contemporary outlook (eg. disagree over dress, manner, sex roles, etc.)	1	2	3	None ___
12.	Politics	1	2	3	None ___
13.	Charity	1	2	3	None ___

Personal Factors

14.	Temperament and personality differences (eg. activity level differences, display of emotions, sociability, mood)	1	2	3	None ___
15.	Affection and closeness (eg. display, perceived emotional distance)	1	2	3	None ___
16.	Acceptance - rejection	1	2	3	None ___
17.	Sexual adjustment (eg. contraception, frequency, type of behaviors preferred and received)	1	2	3	None ___
18.	Jealousy and extramarital affairs	1	2	3	None ___
19.	Personal habits (e.g. sloppiness, tardiness, consideration)	1	2	3	None ___
20.	Personal Improvement (eg. weight, cleanliness, education)	1	2	3	None ___
21.	Health (e.g. seeing a doctor, increasing activity)	1	2	3	None ___

Kinship Responsibilities

22.	Husband's mother	1	2	3	None ___
23.	Husband's father	1	2	3	None ___
24.	Wife's mother	1	2	3	None ___
25.	Wife's father	1	2	3	None ___
26.	Other relatives and dependents	1	2	3	None ___

Other

27.		1	2	3	None ___
28.		1	2	3	None ___
29.		1	2	3	None ___
30.		1	2	3	None ___

[1] Adapted from Weiss and Margolin (1977).

APPENDIX B

Laboratory Paper-and-Pencil Measures

DESCRIPTION OF PROBLEM AREAS

On a previous questionnaire you have pointed out what bothers you in your relationship with your partner. We have indicated some of these areas below, as these are the areas we want to know most about. Now think carefully about these areas. For each of the areas indicated on the next page, we would like you tell us what your partner does that displeases you in that area. For example, if one of your areas is Finances, then you might think of items like:

Partner pays bills late
Partner shops for food irresponsibly
Partner makes sizable purchases without consulting me

Notice that each item is a description of what your partner does that you find unhelpful or displeasurable. If you told us "Partner is not good with money," we wouldn't know what you meant. We want to know what it is your partner does that you rate as displeasurable or a weakness in your relationship.

Here are a few examples of displeasing behavior given by other couples:

AREA NO.	NAME OF AREA	ITEM
2	Household management	Partner leaves dirty dishes around the house Partner forgets to put gas in car
19	Personal habits	Partner does not stick to own diet plan Partner leaves bathroom dirty after use
17	Sexual adjustment	Partner rejects my sexual advances Partner falls asleep immediately after sex
16	Acceptance-rejection	Partner gets angry (sulks) and won't tell me why Partner ignores me (reads paper) before dinner

Now that you know how to proceed, this is how you should describe the problem so that it will be readily understandable to us. We have already marked the problem areas below. Now, in the space provided under the Area Name, list what displeases you regarding your partner. In that way we will have a good idea about the specifics of what displeases you in each area. Please be sure to do this for each of the areas which we have indicated. You may put as many items for each area as you can pinpoint for us.

AREA NO. NAME OF AREA

AREA NO. NAME OF AREA

AREA NO. NAME OF AREA

AREA NO. NAME OF AREA

SELF AND SPOUSE RATING SCALES

Self Rating Scale

The following questions are designed to assess your perceptions of your own behavior during typical conflict situations between you and your spouse. In answering these questions, please base your evaluation on how you perceive your own behavior.

You will notice that questions consist of a statement followed by a series of boxes, and of 3 questions which relate to the statement. The boxes are probably familiar to you by now as you've used them before.

When answering a question, please indicate how frequently the behavior occurs by placing an X into the appropriate box. As in the questionnaire you completed at home, the closer you place your X to the left hand side, the more often that behavior occurs, and the closer to the right hand side, the less frequent the behavior.

You will also notice that beside the three questions which relate to the statement, (a), (b) and (c), there is a series of circles . These circles represent degrees of importance. What we would like you to do here is to indicate how important you feel each factor is. You do this by placing an X into the circle which best represents how important you feel that a factor is. The closer you place the X to the left, the more important you feel that the factor is, while the closer to the right, the less important.

EXAMPLE:

While trying to resolve issues about which you disagree,

0)...you raise your voice

very often | | | | X | | | | | | X | very rarely

In making you behave this way, how important is

a)your own personality?..... very important ( ) ( ) (X) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your spouse's personality?... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (X) completely unimportant

c)the nature of the topic?..... very important ( ) ( ) ( ) ( ) (X) ( ) ( ) ( ) ( ) completely unimportant

Let's say that you raise your voice sometimes, but not really often. Then you should place your X in the 4th box from the left. On the other hand, if you almost never do this, then place it in the last box on your right.

In answering questions (a), (b) and (c), you should determine how important each factor is in making you behave this way. If, for example, you felt that factor (a) , your own personality was important, but not very or extremely important, you would place an X in the circle as in the question (a) example. If you felt that your spouse's personality was completely unimportant in making you behave this way, you would place your X as in example (b). If you felt that the nature of the topic was of slight importance, you would place your X as in the (c) example.

As you can see, all 3 factors may be of equal importance or different factors may have different degrees of importance. Just because you have marked one of the questions as extremely important doesn't mean that the other factors must be of lesser importance. On the other hand, in some cases you will find that one or two factors are very important and the third one is unimportant. So make your answers to questions (a), (b) and (c) in such a way that each answer reflects an independent evaluation. Please do not try to find "patterns", as no patterns exist. If you should find yourself answering many questions the same way, you are probably doing something wrong, so go back and reconsider each case.

PLEASE NOTE: (1) Answer all questions—do not omit any. (2) Be sure to answer all parts of each question. (3) Make each item a separate and independent evaluation.

Sometimes you may feel as though you've seen the same item before. This will not be the case, so do not look back and forth through the items. Work at a fairly high speed, and do not worry or puzzle over individual items; it is your first impressions that we want. On the other hand, please do not be careless, because we want your true impressions.

While trying to resolve issues about which the two of you disagree,

1)...the tone of the discussion is usually

very pleasant [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very unpleasant

i)How important are you in setting the tone of the conversation?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

2)...you indicate that you agree with your spouse

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making you behave this way, how important is

a)your own personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your spouse's personality?... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

3)...you indicate that you approve of your spouse by telling him/her that you favor something he/she has said or done

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making you behave this way, how important is

a)your own personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your spouse's personality?... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

4)...you indicate that you accept responsibility

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making you behave this way, how important is

a)your own personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your spouse's personality?... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

5)...you complain about things in general (i.e. complain without explicitly blaming your spouse)

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making you behave this way, how important is

a)your own personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your spouse's personality?... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

hile trying to resolve issues about which the two of you disagree,

6)...you criticize your spouse

very often |__|__|__|__|__|__|__|__|__|__| very rarely

In making you behave this way, how important is

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

While trying to resolve issues about which the two of you disagree,

7)...you offer suggestions for compromise solutions

very often |__|__|__|__|__|__|__|__|__|__| very rarely

In making you behave this way, how important is

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

While trying to resolve issues about which the two of you disagree,

8)...you indicate that you disagree with your spouse

very often |__|__|__|__|__|__|__|__|__|__| very rarely

In making you behave this way, how important is

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

While trying to resolve issues about which the two of you disagree,

9)...you indicate denial of responsibility

very often |__|__|__|__|__|__|__|__|__|__| very rarely

In making you behave this way, how important is

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

hile trying to resolve issues about which the two of you disagree,

10)...you give excuses

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making you behave this way, how important is

a)your own personality?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your spouse's personality?...very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

11)...you relieve tension by humor

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making you behave this way, how important is

a)your own personality?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your spouse's personality?...very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

12)...you interrupt your spouse while he/she is speaking

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making you behave this way, how important is

a)your own personality?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your spouse's personality?...very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

13)...you touch your spouse affectionately

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making you behave this way, how important is

a)your own personality?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your spouse's personality?...very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

14)...you give positive solutions (i.e. you tell your spouse what should be done, rather than telling him/her only what shouldn't be done)

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making you behave this way, how important is

a)your own personality?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your spouse's personality?...very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

15)...you make comments intended to embarrass your spouse by "putting him/her down"

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making you behave this way, how important is

a)your own personality?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your spouse's personality?...very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

16)...you indicate that you are "turned-off" by making gestures such as grimaces, frowns, exasperated sighs, rolling of the eyes upward, etc.

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making you behave this way, how important is

a)your own personality?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your spouse's personality?...very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

17)...you speak to your spouse with affection

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making you behave this way, how important is

a)your own personality?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your spouse's personality?...very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.....very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

Spouse Rating Scale

The following questions are designed to assess your perceptions of your spouse's behavior during typical conflict situations between the two of you. In answering these questions, please base your evaluation on how you perceive your spouse's behavior.

You will notice that questions consist of a statement followed by a series of boxes, and of 3 questions which relate to the statement. The boxes are probably familiar to you by now as you've used them before.

When answering a question, please indicate how frequently the behavior occurs by placing an X into the appropriate box. As in the questionnaire you completed at home, the closer you place your X to the left hand side, the more often that behavior occurs, and the closer to the right hand side, the less frequent the behavior.

You will also notice that beside the three questions which relate to the statement, (a), (b) and (c), there is a series of circles . These circles represent degrees of importance. What we would like you to do here is to indicate how important you feel each factor is. You do this by placing an X into the circle which best represents how important you feel that a factor is. The closer you place the X to the left, the more important you feel that the factor is, while the closer to the right, the less important.

EXAMPLE:

While trying to resolve issues about which you disagree,

0)...your spouse raises his/her voice

very often | | | | X | | | | | | X | very rarely

In making him/her behave this way, how important is

a)his/her personality? ..... very important ( ) ( ) (X) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality ?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (X) completely unimportant

c)the nature of the topic? .... very important ( ) ( ) ( ) ( ) (X) ( ) ( ) ( ) ( ) completely unimportant

Let's say that your spouse raises his/her voice sometimes, but not really often. Then you should place your X in the 4th box on the left. On the other hand, if he/she almost never does this, then place it in the last box on your right.

In answering questions (a), (b) and (c), you should determine how important each factor is in making your spouse behave that way. If, for example, you felt that factor (a), your spouse's (his/her) personality was important, but not very or extremely important, you would place an X in the circle as in the question (a) example. If you felt that your own personality was completely unimportant in making your spouse behave this way, you would place your X as in example (b). If you felt that the nature of the topic was of slight importance, you would place your X as in the (c) example.

As you can see, all 3 factors may be of equal importance or different factors may have different degrees of importance. Just because you have marked one of the questions as extremely important doesn't mean that the other factors must be of lesser importance. On the other hand, in some cases you will find that one or two factors are very important and the third one is unimportant. So make your answers to questions (a), (b) and (c) in such a way that each answer reflects an independent evaluation. Please do not try to find "patterns", as no patterns exist. If you should find yourself answering many questions the same way, you are probably doing something wrong, so go back and reconsider each case.

PLEASE NOTE; (1) Answer all questions—do not omit any. (2) Be sure to answer all parts of each question. (3) Make each item a separate and independent evaluation.

Sometimes you may feel as though you've seen the same item before. This will not be the case, so do not look back and forth through the items. Work at a fairly high speed, and do not worry or puzzle over individual items; it is your first impressions that we want. On the other hand, please do not be careless, because we want your true impressions.

While trying to resolve issues about which the two of you disagree,

1)...the tone of the discussion is usually

very pleasant [| | | | | | | | | |] very unpleasant

i)How important is your spouse in setting the tone of the conversation?..... very important () () () () () () () () () () completely unimportant

While trying to resolve issues about which the two of you disagree,

2)...your spouse indicates that he/she agrees with you

very often [| | | | | | | | | |] very rarely

In making him/her behave this way, how important is

a)his/her personality?..... very important () () () () () () () () () () completely unimportant

b)your personality?..... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?... very important () () () () () () () () () () completely unimportant

While trying to resolve issues about which the two of you disagree,

3)...your spouse indicates that he/she approves of you by telling you that he/she favors something you've said or done

very often [| | | | | | | | | |] very rarely

In making him/her behave this way, how important is

a)his/her personality?..... very important () () () () () () () () () () completely unimportant

b)your personality?..... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.... very important () () () () () () () () () () completely unimportant

While trying to resolve issues about which the two of you disagree,

4)...your spouse indicates that he/she accepts responsibility

very often [| | | | | | | | | |] very rarely

In making him/her behave this way, how important is

a)his/her personality?..... very important () () () () () () () () () () completely unimportant

b)your personality?..... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.... very important () () () () () () () () () () completely unimportant

While trying to resolve issues about which the two of you disagree,

5)...your spouse complains about things in general (i.e. complains without explicitly blaming you)

very often [| | | | | | | | | |] very rarely

In making him/her behave this way, how important is

a)his/her personality?..... very important () () () () () () () () () () completely unimportant

b)your personality?..... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.... very important () () () () () () () () () () completely unimportant

While trying to resolve issues about which the two of you disagree,

6)...your spouse criticizes you

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important is

a)his/her personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic? .... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

7)...your spouse offers suggestions for compromise solutions

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important is

a)his/her personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic? .... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

8)...your spouse indicates that he/she disagrees with you

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important is

a)his/her personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic? .... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

9)...your spouse indicates denial of responsibility

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important is

a)his/her personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic? .... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

10)...your spouse gives excuses

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important is

a)his/her personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

11)...your spouse relieves tension by humor

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important is

a)his/her personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

12)...your spouse interrupts you while you're speaking

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important is

a)his/her personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

13)...your spouse touches you affectionately

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important is

a)his/her personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

14)...your spouse gives positive solutions (i.e. he/she tells you what should be done, rather than telling you only what shouldn't be done)

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important is

a)his/her personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

15)...your spouse makes comments intended to embarrass you by "putting you down"

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important is

a)his/her personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

16)...your spouse indicates that he/she is "turned-off" by making gestures such as grimaces, frowns, exasperated sighs, rolling of the eyes upwards, etc.

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important is

a)his/her personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

While trying to resolve issues about which the two of you disagree,

17)...your spouse speaks to you with affection.

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important is

a)his/her personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

SELF AND SPOUSE RATINGS OF DISCUSSION

Self Rating Scale - D

The following questions are designed to assess your perceptions of your own behavior during this past problem-solving session. In answering these questions, please base your evaluation on how you perceive your own behavior.

During this session,

1)...the tone of the discussion was

very pleasant [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very unpleasant

i)How important were you in setting the tone of the conversation?..... very important () () () () () () () () () () completely unimportant

2)...you indicated that you agreed with your spouse

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

In making you behave this way, how important was

a)your own personality?..... very important () () () () () () () () () () completely unimportant

b)your spouse's personality?... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?..... very important () () () () () () () () () () completely unimportant

During this session,

3)...you indicated that you approved of your spouse by telling him/her that you favored something he/she has said or done

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

In making you behave this way, how important was

a)your own personality?..... very important () () () () () () () () () () completely unimportant

b)your spouse's personality?... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?..... very important () () () () () () () () () () completely unimportant

During this session,

4)...you indicated that you accepted responsibility

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

In making you behave this way, how important was

a)your own personality?..... very important () () () () () () () () () () completely unimportant

b)your spouse's personality?... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?..... very important () () () () () () () () () () completely unimportant

During this session,

5)...you complained about things in general (i.e. complained without explicitly blaming your spouse)

very often |__|__|__|__|__|__|__|__|__|__| very rarely

In making you behave this way, how important was

a)your own personality?..... ..very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

During this session,

6)...you criticized your spouse

very often |__|__|__|__|__|__|__|__|__|__| very rarely

In making you behave this way, how important was

a)your own personality?..... ..very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

During this session,

7)...you offered suggestions for compromise solutions

very often |__|__|__|__|__|__|__|__|__|__| very rarely

In making you behave this way, how important was

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

During this session,

8)...you indicated that you disagreed with your spouse

very often |__|__|__|__|__|__|__|__|__|__| very rarely

In making you behave this way, how important was

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

During this session,

9)...you indicated denial of responsibility

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

In making you behave this way, how important was

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

During this session,

10)...you gave excuses

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

In making you behave this way, how important was

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

During this session,

11)...you relieved tension by humor

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

In making you behave this way, how important was

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

During this session,

12)...you interrupted your spouse while he/she was speaking

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

In making you behave this way, how important was

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

During this session,

13)...you touched your spouse affectionately

very often |__|__|__|__|__|__|__|__|__|__| very rarely

In making you behave this way, how important was

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

During this session,

14)...you gave positive solutions (i.e. you told your spouse what should be done, rather than telling him/her only what shouldn't be done)

very often |__|__|__|__|__|__|__|__|__|__| very rarely

In making you behave this way, how important was

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

During this session,

15)...you made comments intended to embarrass your spouse by "putting him/her down"

very often |__|__|__|__|__|__|__|__|__|__| very rarely

In making you behave this way, how important was

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

During this session,

16)...you indicated that you were "turned-off" by making gestures such as grimaces, frowns, exasperated sighs, rolling of the eyes upwards, etc.

very often |__|__|__|__|__|__|__|__|__|__| very rarely

In making you behave this way, how important was

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

During this session,

17)...you spoke to your spouse with affection

very often |__|__|__|__|__|__|__|__|__|__| very rarely

In making you behave this way, how important was

a)your own personality?.....very important () () () () () () () () () () completely unimportant

b)your spouse's personality?...very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.....very important () () () () () () () () () () completely unimportant

Spouse Rating Scale - D

The following questions are designed to assess your perceptions of your spouse's behavior during this past problem-solving session. In answering these questions, please base your evaluation on how you perceive your spouse's behavior.

During this session,

1)...the tone of the discussion was

very pleasant [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very unpleasant

i)How important was your spouse in setting the tone of the conversation?..... very important () () () () () () () () () () completely unimportant

During this session,

2)...your spouse indicated that he/she agreed with you

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important was

a)his/her personality?..... very important () () () () () () () () () () completely unimportant

b)your personality?..... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.... very important () () () () () () () () () () completely unimportant

During this session,

3)...your spouse indicated that he/she approved of you by telling you that he/she favored something you've said or done

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important was

a)his/her personality?..... very important () () () () () () () () () () completely unimportant

b)your personality?..... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.... very important () () () () () () () () () () completely unimportant

During this session,

4)...your spouse indicated that he/she accepted responsibility

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important was

a)his/her personality?..... very important () () () () () () () () () () completely unimportant

b)your personality?..... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.... very important () () () () () () () () () () completely unimportant

During this session,

5)...your spouse complained about things in general (i.e. complained without explicitly blaming you)

very often [| | | | | | | | | |] very rarely

In making him/her behave this way, how important was

a)his/her personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic? .... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

During this session,

6)...your spouse criticized you

very often [| | | | | | | | | |] very rarely

In making him/her behave this way, how important was

a)his/her personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic? .... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

During this session,

7)...your spouse offered suggestions for compromise solutions

very often [| | | | | | | . | | |] very rarely

In making him/her behave this way, how important was

a)his/her personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic? .... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

During this session,

8)...your spouse indicated that he/she disagreed with you

very often [| | | | | | | | | |] very rarely

In making him/her behave this way, how important was

a)his/her personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality? ..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic? .... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

During this session,

9)...your spouse indicated denial of responsibility

very often |_|_|_|_|_|_|_|_|_|_| very rarely

In making him/her behave this way, how important was

a)his/her personality?..... very important () () () () () () () () () () completely unimportant

b)your personality?..... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.... very important () () () () () () () () () () completely unimportant

During this session,

10)...your spouse gave excuses

very often |_|_|_|_|_|_|_|_|_|_| very rarely

In making him/her behave this way, how important was

a)his/her personality?..... very important () () () () () () () () () () completely unimportant

b)your personality?..... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.... very important () () () () () () () () () () completely unimportant

During this session,

11)...your spouse relieved tension by humor

very often |_|_|_|_|_|_|_|_|_|_| very rarely

In making him/her behave this way, how important was

a)his/her personality?..... very important () () () () () () () () () () completely unimportant

b)your personality?..... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.... very important () () () () () () () () () () completely unimportant

During this session,

12)...your spouse interrupted you while you were speaking

very often |_|_|_|_|_|_|_|_|_|_| very rarely

In making him/her behave this way, how important was

a)his/her personality?..... very important () () () () () () () () () () completely unimportant

b)your personality?..... very important () () () () () () () () () () completely unimportant

c)the nature of the topic?.... very important () () () () () () () () () () completely unimportant

During this session,

13)...your spouse touched you affectionately

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important was

a)his/her personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality ?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

During this session,

14)...your spouse gave positive solutions (i.e. he/she told you what should be done, rather than telling you only what shouldn't be done)

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important was

a)his/her personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality ?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

During this session,

15)...your spouse made comments intended to embarrass you by "putting you down"

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important was

a)his/her personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality ?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

During this session,

16)...your spouse indicated that he/she was "turned-off" by making gestures such as grimaces, frowns, exasperated sighs, rolling of the eyes upwards, etc

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important was

a)his/her personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality ?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

17)...your spouse spoke to you with affection

very often [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] very rarely

In making him/her behave this way, how important was

a)his/her personality?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

b)your personality ?..... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

c)the nature of the topic?.... very important ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) completely unimportant

EVALUATIONS OF HUSBAND'S AND WIFE'S COMMUNICATION SKILLS

Evaluation of Husband's Communication Skills

We are in the process of trying to evolve a technique by which we can give meaningful feedback about their communication skills to couples in therapy. However, we are aware that our perceptions of the strengths and weaknesses of spouses may be different from those of the spouses concerned. Therefore, we would like you to assess how accurate you feel we are.

We have prepared the following summary of the communication strengths and weaknesses of Mr. _____, as assessed by our observers during this last discussion session. Please look over this summary carefully, and indicate how accurate each of these observations are of the husband's behavior during this last discussion session.

Here is how to indicate accuracy for us.

Legend: very accurate | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | very inaccurate

In the box beside each observation, please place the number which best corresponds to your opinion about how accurate we are. 10 would mean that we are very accurate and 1 would mean that we are very inaccurate. All the numbers in between represent different degrees of accuracy. In other words, the closer your rating is to 10, the more accurate you feel we are, while the closer to 1, the less accurate.

Now please look over our observations, and indicate how accurate you feel that each one is. Please do this individually, and do not discuss it with your spouse.

COMMUNICATION STRENGTHS: FACILITATIVE	COMMUNICATION WEAKNESSES: DISRUPTIVE
POSITIVE BEHAVIORS FREQUENT The following behaviors occurred fairly often, and indicate problem solving strengths.	**NEGATIVE BEHAVIORS FREQUENT** The following behaviors occurred too often and indicate problem solving weaknesses. The frequency of these behaviors should be decreased.
☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
NEGATIVE BEHAVIORS RARE The following behaviors occurred very rarely, and indicate problem solving strengths.	**POSITIVE BEHAVIORS RARE** The following behaviors occurred too rarely, and indicate problem solving weaknesses. The frequency of these behaviors should be increased.
☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐

Comments:

Evaluation of Wife's Communication Skills

We are in the process of trying to evolve a technique by which we can give meaningful feedback about their communication skills to couples in therapy. However, we are aware that our perceptions of the strengths and weaknesses of spouses may be different from those of the spouses concerned. Therefore, we would like you to assess how accurate you feel we are.

We have prepared the following summary of the communication strengths and weaknesses of Mrs. _____, as assessed by our observers during this last discussion session. Please look over this summary carefully, and indicate how accurate each of these observations are of the wife's behavior during this last discussion session.

Here is how to indicate accuracy for us.

Legend: very accurate | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | very inaccurate

In the box beside each observation, please place the number which best corresponds to your opinion about how accurate we are. 10 would mean that we are very accurate and 1 would mean that we are very inaccurate. All the numbers in between represent different degrees of accuracy. In other words, the closer your rating is to 10, the more accurate you feel we are, while the closer to 1, the less accurate.

Now please look over our observations, and indicate how accurate you feel that each one is. Please do this individually, and do not discuss it with your spouse.

COMMUNICATION STRENGTHS: FACILITATIVE	COMMUNICATION WEAKNESSES: DISRUPTIVE
POSITIVE BEHAVIORS FREQUENT The following behaviors occurred fairly often, and indicate problem solving strengths.	NEGATIVE BEHAVIORS FREQUENT The following behaviors occurred too often and indicate problem solving weaknesses. The frequency of these behaviors should be decreased.
☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
NEGATIVE BEHAVIORS RARE The following behaviors occurred very rarely, and indicate problem solving strengths.	POSITIVE BEHAVIORS RARE The following behaviors occurred too rarely, and indicate problem solving weaknesses. The frequency of these behaviors should be increased.
☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐

Comments:-

Follow-Up Measures

McGill University

Behavior Therapy Unit
Allan Memorial Institute (514) 842-1231 local 1627-1628

COVER LETTER

Dear Mr. and Mrs.

We wish to thank you for your participation in our study on communication in marriage. Because of your interest and cooperation, we have now successfully completed the research and are presently in the process of analyzing the data. We should have a written version of our results in the near future. As a number of couples have indicated an interest in our findings, we would be happy to mail you a copy. If you wish to receive a copy of our results, please indicate this on the attached sheet.

We are also very interested in finding out about any changes in your relationship since your participation in the project, as well as your reactions to participating in the study. Please complete the attached questionnaires individually and mail them back to us as soon as possible. Also, if you are planning to move, please indicate your new address so that we can mail you a copy of our findings.

Thank you for your cooperation.

Sincerely,

Catherine Fichten, M.A.

John Wright, Ph.D.

Postal address 1033 Pine Avenue West, Montreal, PQ, Canada H3A 1A1

RELATIONSHIP INFORMATION SHEET

1. Do you wish to receive a copy of our results? YES ☐ NO ☐

2. Address: same as before ☐

   has changed/will change to _____

   (please print)

3. Are you and your spouse living together? YES ☐ NO ☐

4. Have you ever received therapy for a marital problem? YES ☐ NO ☐

   If yes: (Keep in mind that you participated in our study on _____).

   i) were you in therapy at the time of your participation in the study? YES ☐ NO ☐

   ii) did you start therapy after participation in the study? YES ☐ NO ☐

   iii) had you terminated therapy before participation in the study? YES ☐ NO ☐

5. How has participation in the study affected your marital relationship?

   a) resulted in substantial improvement in your relationship

   b) resulted in some improvement in your relationship

   c) made no difference in your relationship

   d) resulted in some deterioration in your relationship

   e) resulted in substantial deterioration in your relationship

6. Please comment on how participation in the study has affected your marital relationship.

MARITAL ADJUSTMENT SCALE [1]

1. Circle the dot which you feel best represents the degree of happiness in your marriage. The middle point "happy" represents the degree of happiness which most people get from marriage, and the scale gradually ranges on one side to those few who are very unhappy in marriage, and on the other, to those few who experience extreme joy or felicity in marriage.

very unhappy — happy — perfectly happy

Indicate the approximate extent of agreement between you and your mate on the following items.

Check one column for each item below	always agree	almost always agree	occasionally disagree	frequently disagree	almost always disagree	always disagree
2. handling family finances						
3. matters of recreation						
4. demonstration of affection						
5. friends						
6. sex relations						
7. conventionality (right, good or proper conduct)						
8. philosophy of life						
9. ways of dealing with in-laws						

Reply to each question by circling the letter next to the appropriate answer. If you cannot give an exact answer to a question, answer the best you can. Do not leave out any questions.

10. When disagreements arise, they usually result in:
    a. husband giving in
    b. wife giving in
    c. agreement by mutual give and take

11. Do you and your mate engage in outside interests together?
    a. all of them
    b. some of them
    c. very few of them
    d. none of them

12.1 In leisure time, do you generally prefer:
    a. to stay at home
    b. to be "on the go"

12.2 In leisure time, does your mate generally prefer:
    a. to stay at home
    b. to be "on the go"

13. Do you ever wish you had not married?
    a. frequently
    b. occasionally
    c. rarely
    d. never

14. If you had your life to live over, do you think you would:
    a. marry the same person
    b. marry a different person
    c. not marry at all

15. Do you confide in your mate:
    a. almost never
    b. rarely
    c. in most things
    d. in everything

[1] From Locke and Wallace (1959).

SELF AND SPOUSE RATINGS AT FOLLOW-UP

Self Rating Scale

The following questions are designed to assess your perceptions of your own behavior during typical conflict situations between you and your spouse. In answering these questions, please base your evaluation on how you perceive your own behavior.

You will notice that questions consist of a statement followed by a series of boxes. The boxes are probably familiar to you by now as you've used them before. When answering a question, please indicate how frequently the behavior occurs by placing an X into the appropriate box. As in the questionnaire you completed at McGill, the closer you place your X to the left hand side, the more often that behavior occurs, and the closer to the right hand side, the less frequent the behavior.

While trying to resolve issues about which the two of you disagree,
1)...the tone of the discussion is usually

very pleasant [| | | | | | | | |] very unpleasant

i) How important are you in setting the tone of the conversation?

very important () () () () () () () () () () completely unimportant

---

While trying to resolve issues about which the two of you disagree,
2)...you indicate that you agree with your spouse

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
3)...you indicate that you approve of your spouse by telling him/her that you favor something he/she has said or done

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
4)...you indicate that you accept responsibility

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
5)...you complain about things in general (i.e. complain without explicitly blaming your spouse)

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
6)...you criticize your spouse

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
7)...you offer suggestions for compromise solutions

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
8)...you indicate that you disagree with your spouse

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
9)...you indicate denial of responsibility

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
10)...you give excuses

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
11)...you relieve tension by humor

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
12)...you interrupt your spouse while he/she is speaking

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
13)...you touch your spouse affectionately

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
14)...you give positive solutions (i.e. you tell your spouse what should be done, rather than telling him/her only what shouldn't be done)

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
15)...you make comments intended to embarrass your spouse by "putting him/her down"

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
16)...you indicate that you are "turned-off" by making gestures such as grimaces, frowns, exasperated sighs, rolling of the eyes upward, etc..

very often [| | | | | | | | |] very rarely

While trying to resolve issues about which the two of you disagree,
17)...you speak to your spouse with affection

very often [| | | | | | | | |] very rarely

Spouse Rating Scale

The following questions are designed to assess your perceptions of your spouse's behavior during typical conflict situations between the two of you. In answering these questions, please base your evaluation on how you perceive your spouse's behavior.

You will notice that questions consist of a statement followed by a series of boxes. The boxes are probably familiar to you by now as you've used them before. When answering a question, please indicate how frequently the behavior occurs by placing an X into the appropriate box. As in the questionnaire you completed at McGill, the closer you place your X to the left hand side, the more often that behavior occurs, and the closer to the right hand side, the less frequent the behavior.

While trying to resolve issues about which the two of you disagree,
1)...the tone of the discussion is usually

very pleasant [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very unpleasant

i) How important is your spouse in setting the tone of the conversation?

very important () () () () () () () () () () completely unimportant

While trying to resolve issues about which the two of you disagree,
2)...your spouse indicates that he/she agrees with you

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
3)...your spouse indicates that he/she approves of you by telling you that he/she favors something you've said or done

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
4)...your spouse indicates that he/she accepts responsibility

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
5)...your spouse complains about things in general (i.e. complains without explicitly blaming you

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
6)...your spouse criticizes you

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
7)...your spouse offers suggestions for compromise solutions

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
8)...your spouse indicates that he/she disagrees with you

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
9)...your spouse indicates denial of responsibility

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
10)...your spouse gives excuses

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
11)...your spouse relieves tension by humor

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
12)...your spouse interrupts you while you're speaking

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
13)...your spouse touches you affectionately

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
14)...your spouse gives positive solutions (ie he/she tells you what should be done, rather than telling you only what shouldn't be done)

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
15)...your spouse makes comments intended to embarrass you by "putting you down"

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
16)...your spouse indicates that he/she is "turned-off" by making gestures such as grimaces, frowns, exasperated sighs, rolling of the eyes upwards, etc.

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

While trying to resolve issues about which the two of you disagree,
17)...your spouse speaks to you with affection

very often [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] very rarely

APPENDIX D

Behavioral Measures

MODIFIED MARITAL INTERACTION CODING SYSTEM (MMICS)[1]

Instructions for Use of MMICS

The MMICS is a modification of the Oregon group's MICS (Hops, Wills, Patterson & Weiss, 1972) and is designed for objective coding of behavior on the basis of a continuous time sampling procedure. It has been developed and used to objectively record verbal and non-verbal behaviors that occur as marriage partners attempt to negotiate, in a laboratory setting, resolutions of typical marital problems. Primary emphasis, in training of the MMICS, is placed on the accurate coding of every behavior emitted that can be classified, then recorded in 6 second intervals. Coders receive extensive training in discriminating and categorizing behavior units in terms of 17 well-defined behavior codes, and it is their skillful discrimination of behavior units which form the basis of the MMICS.

The primary requirement for any coding system is a clear and workable definition of the basic unit of observation. In the MMICS, the basic unit is defined as a single utterance, verbal segment or non-verbal response which is homogeneous in content, without regard for its arbitrary syntactical properties, such as division into words and sentences; however, the content must be discernible during a particular 6 second interval. Homogeneity of content is judged with reference to the 17 codes, but this judgement presents little difficulty for the coder once the definitions of the codes have been well memorized.

If a person produces several utterances during a particular 6 second interval without any changes in basic content, this would be coded only once during the interval. Should the utterance continue into the next interval, it should be coded as present provided that its content is codable during the interval. The coder's task consists of discriminating behavior units by attending to changes in content and categorizing each behavior unit in terms of the 17 behavioral codes. Note that a single verbal segment

---

[1] Adapted from Hops, Wills, Patterson & Weiss (Note 4).

cannot be double coded (i.e. can be coded using only a single verbal code). The only exception to this rule is the Interrupt (IN) code, which may be used any time that a person interrupts the other. Non-verbal behavior may be coded in conjunction with a verbal code. If, within a single interval, a particular coded behavior has occurred, regardless of the number of times that it has occurred, that behavior will be coded only once, and will be indicated as emitted by the husband or by the wife.

The coding of each problem-solving session is a complete record of the verbal and non-verbal behavior which occurs in an interaction between the married partners. The complexity of the coding system and the high rate of verbal exchange between the partners in a problem-solving session make it difficult to obtain a complete record in vivo, so the problem-solving interactions are recorded on videotape, enabling the coders to subsequently replay the tape as many times as necessary to achieve a reliable accounting of the behaviors that have occurred. In order to maximize the amount of information obtained, a 6 second interval was chosen as the basic timing block. The coding form is divided into 10 lines, each containing ten 6 second intervals for a total of 10 minutes of recorded behavior per coding sheet. Each 60 second line is, in turn, divided horizontally into two parts, the upper half of the line being used for recording the husband's behavior, and lower half being used for recording the wife's behavior; this device saves the coder the effort of writing in labels to identify which of the partners is speaking. The problem of timing is handled by recording audible "beeps" on the videotape at 6 second intervals so that whenever the coder hears a "beep" he/she automatically advances to a new interval on the coding sheet.

The MMICS consists of two basic types of behavior codes; 15 verbal codes, to categorize the content of a speaker's statements, and two non-verbal ones, to record such behaviors as facial expressions and physical contact. Non-verbal codes are also appropriate for recording non-verbal behaviors which accompany a speaker's statements, but again, should be coded only once in any particular interval. Every change in behavior unit is indicated by recording a new behavior code. The 6 second interval then includes each

behavior that takes place. This is done separately for the husband and for the wife. However, should the same behavior be emitted at two different times during an interval, it should be coded only once. In a particular 6 second interval the number of codes recorded may range from as few as one to as many codes as are necessary to record all the behavior units observed.

Before commencing coding, the coder should view the videotape of each of the two discussions, and complete the Marital Interaction Checklist and the Marital Interaction Rating Scale. When commencing coding, the following instructions should be followed.

a) The first coding interval is the one in which the experimenter's voice cannot be heard and in which the couple has started the discussion.

b) A total of 10 minutes should be coded for each discussion session.

c) If the couple finished discussing a problem area and a contingency problem was administered, behaviors occurring during the interval in which the couple called the experimenter on the intercom should not be coded.

d) The counter on the VTR should be used to help coders keep track of intervals.

e) Coders should use as many replays of each interval as necessary to discern the exact meaning of each behavior unit occurring during the interval.

In order to promote a basic understanding of the behavior units, short, one-sentence definitions of all 17 codes are listed below.

Brief Code Definitions

AC Activity. (AC) should be coded when an utterance does not provide the coder with sufficient information to infer its meaning (to the extent that the behavior does not meet the requirements of one of the other codes), or is a statement which is irrelevant to the current topic of discussion. This code is also used when no other codable behavior occurs during a particular interval.

AG Agreement. (AG) is coded when one person expresses or advances an opinion and the other's verbal response indicates that the two are in agreement on the issue.

AP Approval. (AP) is any verbal response indicating that the respondent personally favors something that has been said or done.

AR Acceptance of Responsibility. (AR) is coded for statements in which one person explicitly accepts the responsibility for a past or present problem, usually after the partner has delivered a blaming statement.

CP Complaint. (CP) is used to code statements in which a person bemoans the extent of his/her suffering without explicitly blaming the partner for this suffering.

CR Criticism. Any hostile, belligerent, or embittered statement expressing unambiguous dislike or disapproval of the partner's actions, comments or attributes is coded (CR);

CS Compromise Solution. (CS) is coded for a particular type of suggestion in which a mutual exchange of behaviors is proposed.

DG Disagreement. (DG) is coded in those situations where one person expresses or advances an opinion and the other's response indicates that the two parties are in disagreement on the issue.

DR Denial of Responsibility. (DR) is coded in instances where one person, after having been blamed by the other, explicitly denies that he/she is responsible or should be responsible for that situation, and in cases where the person merely avoids accepting such a responsibility.

EX Excuse. When the question arises concerning the responsibility for a past or present problem, a person may avoid the issue by invoking an implausible explanation or a spurious reason, or a weak rationale; if so, (EX) is coded.

HU Humor/Tension Release. Any statement that is clearly intended to be humorous and is primarily lighthearted in tone is coded (HU).

IN Interrupt. (IN) is coded each time a person breaks in or attempts to break in with questions or statements while the other person is speaking.

PA Physical Affection. (PA) is coded for each occasion in which one person touches the other in a friendly or affectionate manner.

PS Positive Solution. A proposal for change in which the speaker describes something he/she would like to do, or would like the partner to do, is coded (PS).

PU Put-Down. A (PU) is a comment whose function, in the coder's judgement, is to demean or embarrass the other.

TO Turn-Off. (TO) is a non-verbal response such as a grimace or an exasperated sigh which communicates displeasure, disgust or disapproval, usually in reaction to something the partner has just said.

VA Verbal Affection. Expressions of liking for the partner are coded (VA).

These 17 codes may be grouped into the following three superordinate categories, and should be summed thus on the coding sheet.

MMICS Codes and Categories

Neutral	Productive	Counterproductive
AC Activity	AG Agreement	CP Complaint
	AP Approval	CR Criticism
	AR Acceptance of Responsibility	DG Disagreement
	CS Compromise Solution	DR Denial of Responsibility
	HU Humor/Tension Release	EX Excuse
	[a]PA Physical Affection	IN Interrupt
	PS Positive Solution	PU Put-Down
	VA Verbal Affection	[a]TO Turn-Off

[a]Non-verbal codes.

MMICS Code Definitions

AC Activity. When an utterance does not provide the coder with sufficient information to infer its meaning (to the extent that it meets the requirements of one of the other codes), or is a statement which is irrelevant to the current topic of discussion, code (AC). Note that (AC) can only be coded in those intervals in which no other codable behavior occurs. Individuals vary greatly in their speech patterns, and as a consequence, coders

may encounter a wide range in both the frequency and types of behavior coded (AC). The following are common examples of behavior coded (AC).

a) "I don't know" responses to questions:

1) "Who is at fault here?" (AC) "I don't know." (AC)

2) "What can we do?" (AC) "I guess...hmhmm." (AC)

b) Any comments clearly irrelevant to the current topic of discussion [e.g., "Is there any more coffee left?" (AC)]

c) Any vocalization having no clearly discernible meaning ("Uh," "Well," "Hmm...") which, in the context of the interaction, does not meet the requirements for (AG), (TO), or (IN). In this instance, the person is typically "thinking out loud".

d) Code (AC) when a person is fumbling to begin a statement, if a significant utterance does not follow. In this instance, the person's statement may have no clearly discernible meaning [as in example (c)] or the speaker may repeat brief parts of statements which are not applicable to any of the other verbal codes. For example, code (AC) for the following:

1) "I guess we..." (followed by silence)

2) "The problem is that..." (no indication of the exact nature of the problem)

3) "I think it should, er, uh..."

e) When the coder cannot understand what is being said because of poor audio quality or because the speaker is mumbling, code (AC).

f) Responses to questions which do not meet the requirements for (AG), or (DG), i.e., questions in which the speaker's opinion is not clearly expressed, are coded (AC). Responses to simple questions about points of information are also coded (AC). Examples are:

1) "What time is it?" (AC) "Ten A.M." (AC)

2) "Have we finished with this topic?" (AC) "Yes." (AC)

AG Agreement. (AG) is coded in those situations in which one person expresses or advances an opinion and the other's verbal response indicates that the two parties are in agreement on the issue. An (AG) response can follow either a question or an assertion, as in the following examples:

a) "I think we have a problem with the kids, don't you?" (AC)
"Yes." (AG)

b) "I think we have a problem with the kids." (AC)
"That's right." (AG)

One problem in the coding of (AG) is that is some questions the speaker has not clearly expressed an opinion, as in the question, "Do you think we have a problem with the kids?" In such cases the coder may use context cues to judge whether or not the speaker has expressed an opinion with which the partner can agree. If so, code (AG) for the one who agrees; if not, code (AC) for the response which may or may not indicate consensual agreement. Simple "yes" or "no" responses to questions about points of information are not coded (AG) because they provide no information about whether or not the parties agree; this type of response is coded (AC) instead, as in the following exchange: "Did you talk to your mother today?" (AC) "Yes." (AC). Agreement can be expressed by either "yes" or "no," as in these examples:

a) "Don't you think I'm doing the right thing with the kids?" (AC)
"Yes." (AG)

b) "I didn't come too late, did I?" (AC) "No." (AG)

An arbitrary rule governing the coding of (AG) is that a short (three words or less) affirmative response occurring while the speaker is talking or during a brief pause is not coded (AG), while such an affirmative response occurring at the end of a sentence or during a long pause is coded (AG), i.e. all "yes" responses are not necessarily coded (AG), and a "yes" in response to an opinion is coded (AG) only if it occurs after a pause or at the end of a sentence. This rule applies only to short asserting utterances (three words or less). Longer affirmative responses to statements are coded (AG) [and (IN) if the person agreeing breaks into the conversation].

AP Approval. A verbal response indicating that the respondent personally favors something the other has said or done is coded (AP). Statements which are compliments are also coded (AP). More specifically, the following types of behavior are coded (AP):

a) Statements of thanks.

b) Statements recognizing that the other has performed a desired behavior, if the statement is made in a manner which clearly indicates approval, such as, "I think it's great that you've been reading a lot recently."

c) Statements recognizing that both partners have performed a desired behavior or have done something well, such as, "At least now we negotiate our differences instead of fighting about them," or "That's the first time we've been able to solve a problem so quickly."

d) Statements expressing approval for a preceding response from the other, such as, "That's a good idea," "I like that," "Yes, you've really got it there," and "That would make me feel good."

(AP)can apply to past, present, or future actions. Thus, "It was nice of you to take the family on a picnic," "Say, I really like your hairdo today," and "I would really like it if you would do that," are all coded (AP).

Optimism about solving the problem or about coming to an agreement, such as,"I think we'll solve this problem yet," or "We're finally getting there," should be coded (AP). However, minimization of a problem such as, "Well, it's not a very serious problem anyway," is not coded (AP).

Complimenting or generally praising the spouse should be coded (AP). For example, "That was a good point," "You're really good at that sort of thing," (not sarcastically), "That was a good choice you made," and "I didn't look at it that way but it's a good point" should all be coded (AP).

AR Acceptance of Responsibility. An explicit statement of responsibility for an action or the existence of a situation. Usually preceded by a problem description or a change request such as (CR), (PS), (CS), (CP), or (PU). When the question arises concerning the responsibility for a past or present problem, a person may explicitly accept the responsibility for this situation; if so, code (AR). Statements fitting the definition of (AR) may assume several different forms:

a) A statement in which a person admits engaging in a behavior which has been defined as a problem by the other, such as, "You're right. I have been putting wet towels in the hamper," "Yes, that's my fault," and "I suppose I'm the one responsible for that."

b) A statement in which one person suggests that both partners are responsible for a problem, such as, "I guess we've both been neglecting the kids."

c) Any apologetic statement.

d) When one person points out some deficiency in the other's behavior, or points to an area for which the spouse has some responsibility, and the other responds by saying, "That's true," or "You're right."

e) A statement in which one person recognizes that he ought to accept more responsibility for behaviors necessary to solve a defined problem (e.g., "I really feel I ought to be doing more to help you around the house").

f) Agreement with a (CR), (CP), or (PU) in which one spouse agrees that something is his/her fault should be coded (AR), not (AG). Note that (AR) is superordinate to (AG).

g) (AR) should also be coded whenever a spouse admits to being guilty of the same behavior for which he/she faults the spouse [e.g., "You should pick your socks off the floor," (CR) "I guess I should too." (AR)].

CP Complaint. A statement in which one person bemoans the extent of his or her suffering without explicitly blaming the other person. The statement is often delivered in a whining, hurt or irritated tone of voice. Common examples are:

a) "Nobody cares what I think about this."

b) "I can't remember the last time I got out of the house alone."

A statement indicating that the respondent is being wronged, discomfited, or unnecessarily and frequently inconvenienced, either through the partner's action or non-action or because of external circumstances, should be coded (CP). (CP) has a tinge of personal injustice, but does not propose any solutions nor does it explicitly direct any personal criticism at the other. Thus, "I'm so cold when I get up in the morning," would be (CP), whereas, "You're always turning the heat down too low," would be Criticism (CR). (CP) is distinguished from other codes in the following manner:

a) A (CP) statement does not explicitly blame the other person for the suffering; if blame is directed at the other, code (CR) or Put-Down (PU).

b) A (CP) statement does not propose any solutions, although it may assume the form, "I wish I wasn't so miserable," "I never get to go anywhere," and "Well if I didn't do it, it wouldn't get done."

(CP) is self-oriented, while (CR) and (PU) are directed toward the other. Sometimes one person makes a remark that begins as a (CP) in that the comment is self-oriented, and then finishes the statement by laying the blame on the partner. Part of this would be coded (CP) and part (CR), or part (CP) and part (PU), as in this example, "I always feel like I'm on a leash when I'm coming home from work (CP) because if I'm not there within 15 minutes you're waiting for me at the door ready to bawl me out." (CR) Statements such as, "It annoys me (CP) that you always leave the dishes," (CR) should be coded (CP) for the self oriented part and (CR) for the spouse blaming portion.

Sarcastic statements require close attention from the coder for appropriate coding. Sarcastic statements which are clearly directed at the other person are coded (PU). Sometimes, however, the coder will encounter descriptions of a problem not clearly related to the spouse which are uttered in an irritated or bitter tone of voice. Such statements are coded (CP) as they do not reflect disapproval of the spouse so much as dissatisfaction with the world at large. Examples of the latter type of

(CP) statement are: "The kids ate the chocolate cake!" (irritated tone), and, "I had to wait three hours in the doctor's office before I even got in to see him!"

Expressions of "negativism" are also coded (CP) (e.g., "We'll never solve this," or "Oh, what's the use bringing that up again."). Such statements should be coded (CP) even when they are responses to Criticism (CR).

CR Criticism. Any hostile statement expressing unambiguous dislike or disapproval of a specific behavior in which the other engages is coded (CR). A (CR) statement must always be direct, in the sense that the statement is critical and directed toward the partner. Rhetorical questions such as, "Who do you think will do it if you don't?" are also coded (CR). Here are some examples of (CR):

a) "You left dirty dishes all over the house again."

b) "You never come right home after work."

c) "You wasted five dollars on that stupid record."

d) "You never think before you go spending our money on useless things."

Commands and orders are also generally coded (CR). Thus, a direct request for immediate actions is coded (CR). In the context of a clinical interview setting, examples of (CR) include such statements as, "Don't do that," and "Stop that." In general, Positive Solution (PS) takes precedence over (CR). However, when a statement such as, "Be specific," "Get to the point," "Talk louder," or "Repeat that," is made, it should be coded (CR) i.e. a statement which would otherwise be coded (PS), when it refers to behavior during the discussion, should be coded (CR). If a command is delivered in a hostile or irritated tone of voice, it is coded Put-Down (PU).

CS Compromise Solution. Proposals for an exchange of behaviors are coded (CS). These typically take the following form: "If you do this, I'll do that." A (CS) is a particular type of problem-solving behavior which is functionally different from unilateral proposals for change. It is a sequence of behaviors culminating in the negotiation of an exchange of behaviors; (CS) is coded for three types of behavior which occur in such problem solving sequences:

a) Proposals for an exchange of behaviors using any of the following forms: "I'll do this if you'll do that," "I'll do this if you won't do that," or, "I won't do this if you won't do that."

b) Bargaining for equitable exchange: for example, "I'll sweep the floor if you'll mow the lawn." (CS) "No, that's not fair! [(DG) Disagreement] It takes a lot longer to mow the lawn than it does to sweep the floor. You should have to sweep the floor three times for every time I mow the lawn." (CS)

c) Setting of contingencies for noncompliance: for example, "If you don't mow the lawn Saturday morning, you have to give up watching TV on Saturday afternoon," (CS) or, "If you nag me more than twice a week, I get five dollars extra for that week." (CS)

It is important for the coder to understand that the negotiation of an exchange does not always follow a standard formula. In the simplest case, the negotiation begins with a statement of the form, "I'll do this if you'll do that," (CS), and all subsequent behavior consists of: pinpointing the nature of exchanged behaviors [Positive Solution (PS)], bargaining for equity (CS), and setting contingencies (CS). In more difficult cases, one person begins the process with a statement of the form, "Well, what I'll do is..." (PS), and what follows is an extensive discussion of the change that this person is to make. Both partners may have an exchange in mind, but the coder cannot be sure, from what is being said, that they are going to negotiate an exchange, so the problem-solving behavior just described is coded (PS). When one person's side has been worked out, the process typically continues with the other person making a statement of the form, "Well, if you'll do that then I'll..." From this point on it is clear to the coder that an exchange is involved, so (CS) is recorded for this statement and all subsequent statements which fit the definition of (CS). Note that the exchange does not have to be contingent, i.e. statements such as, "If you could do... and I could do..." should be coded (CS).

An item of further note is that the pinpointing of desired behaviors which occurs as part of a negotiation is always coded (PS), (AC), (CR), (CS) or (PU) depending upon the form of the pinpointing statement. Pinpoints in which a person communicates what he does want or does expect are coded (PS), while

pinpoints in which a person states what he does not want or does not expect are coded (AC), (CR) or (PU), as appropriate.

DG Disagreement. (DG) should be used to code an explicit statement expressing disagreement with the content or intent of a preceding statement. (DG) always refers to the immediately preceding statement, while (CR) usually refers to events outside the immediate conversation.

(DG) is coded in those situations where one person expresses or advances an opinion and the other's response indicates that the two parties are in disagreement on the issue. A (DG) response can follow either a question or an assertion, as in the following examples:

a) "I think we have a problem with the kids, don't you?" (AC) "No." (DG)

b) "I think we have a problem with the kids." (AC) "I don't." (DG)

One problem in the coding of (DG) is that in some questions the speaker has not clearly expressed his own opinion, as in the question, "Do you think we have a problem with the kids?". In such cases the coder may use context cues to judge whether or not the speaker has expressed an opinion with which the other can be in disagreement. If so, code (DG) for the one who disagrees. For example, "The kids aren't around all the time." (AC) "When are the kids not around?" (DG)

Simple "yes" or "no" responses to questions about points of information as in, "Did you go to the store yet?" "No," are not coded (DG) because they provide no information about whether or not the parties disagree. However, disagreement can be expressed by either "yes" or "no", as in the following examples:

a) "Don't you think we have a problem with the kids?" (AC) "No." (DG)

b) "I didn't come home too late, did I?" (AC) "Yes, you did." (DG)

It is appropriate to code (DG) for head shaking when it is clear that simple disagreement is being expressed; when other cues indicating disapproval or disgust accompany head shaking, code Turn-Off (TO). Unlike (AG), (DG) is coded whether it occurs in the middle or at the end of a sentence.

Note that Excuse (EX) and Denial of Responsibility (DR) are superordinate to (DG). Thus, a disagreement which incorporates either of these two elements is not coded (DG), but as (EX) or (DR), as appropriate.

DR Denial of Responsibility. Any statement which explicitly denies that the respondent should or does bear any responsibility for a particular situation. Excuse (EX) is an attempt to wriggle out of responsibility, while (DR) is an active denial. However, if the coder has difficulty deciding between an (EX) and a (DR) code because what appears to be an Excuse is plausible, then the statement should be coded (DR). Disregard the truth or falsity of the statement.

When the question arises concerning the responsibility for a past or present problem, a person may explicitly deny that he/she is responsible or should be responsible for that situation; if so, code (DR). For example,

a) "You didn't clean the cat box." (CR) "Well, I never said I would." (DR)

b) "You never pick up my clothes at the cleaners." (CR) "Yes, I do." (DR)

c) "You didn't get the car washed." (CR) "I never said I would." (DR)

d) "Disciplining the kids is your responsibility not mine." (DR)

Note that (DR) is superordinate to (CP). Thus, "It's not my fault the job situation is so bad, and I can't make more money," should be coded (DR), not (CP), when it is a response to a Criticism (CR).

The question of responsibility will usually be raised in a preceding statement [usually a (CR) or a Put-Down (PU)] by the partner. Any statement in which one person suggests that neither partner is responsible for a particular problem will be coded (DR). Also, any statement in which a person denies a connection between his behavior and a situation which has been defined as a problem by the other partner is coded (DR). A particularly tricky example of (DR) is a statement of the following type: "You always leave the house a mess." (CR) "No, I don't either." (DR) This response also fits the definition of Disagreement (DG) but in this case (DR) has precedence. (DR) is always superordinate to (DG). Note that (DR) refers only to past or present problems. If one person makes a problem-solving proposal such as a Positive Solution (PS) or a (CS) and the other turns it down, the response is coded (DG), not (DR).

An explicit denial of responsibility for a problem usually follows a statement of problem description or a criticism and includes statements in which one person denies that either person is responsible (e.g., "It's not our fault the kids turned out this way."). When a person makes a remark which indicates that a problem stated by the partner is not really a problem, that response should be coded (DR). For example, "I guess the problem is that we get up at different times." (AC) "No it's not." (DR).

Statements of "negativism" following a criticism (CR) should be coded (CP), not (DR). For example, responses such as, "We'll never solve this," or "Oh, what's the use," are coded (CP), not (DR).

EX Excuse. An (EX) is an attempt to escape accepting responsibility for an action or situation by invoking improbable or unlikely causes and reasons. A person may use an (EX) to excuse either his own behavior or the shortcomings of another. When the question arises concerning the responsibility for a past or present problem, a person may avoid accepting the responsibility for the situation by invoking an implausible explanation, spurious reason, or weak rationale; if so, code (EX). This code requires judgment from the coder as to whether the explanation is plausible or reasonable. If so, code (AC), or (AR) or (DR); if not, code (EX).

For example, assume a situation in which a husband had gone fishing and had come home three hours late for dinner. When asked why he was late, he might say, "The car broke down and it took us three hours to get it fixed." This would be coded (AC). He might, however, say, "Well, the fish were biting." This would be coded (EX). One of the cues used to discriminate (EX) is that a person making an (EX) will often squirm in his/her seat and look embarrassed or uncomfortable. Smiling or laughing will often accompany (EX) statements. Sometimes (EX) statements will assume the form of facetious comments.

If the reason given for engaging in a proscribed behavior is "Well, I'm like that," i.e., a trait of the person (and therefore, by implication, unchangeable), it should be coded (EX). For example, statements such as, "Well, I'm absent-minded," or "That's my nature," should be coded (EX).

HU Humor/Tension Release. A facetious, joking, or flippant response, or any statement that is clearly intended to be humorous and is primarily lighthearted in tone will be coded (HU). An (HU) is always accompanied by smiles or laughter from the partner. For any statement with even slight overtones of sarcasm, consider Put-Down (PU). Examples of (HU) are:

a) Outright jokes of the "one-liner" variety (long winded stories would not be coded in most instances as they are irrelevant to the problem-solving discussion).

b) Statements which propose a clearly facetious solution to a problem.

c) Statements which emphasize the humorous aspects of a situation or problem.

d) Statements which present lighthearted criticism of the other in such a manner that it is lightly received, e.g., "Oh, you silly duck!"

In order to be coded (HU), a humorous statement must be made. "Cracking up", in the absence of a humorous remark is not coded (HU). (HU) is coded only for the person making the humorous remark. Note that although the term tension release is part of the verbal label for the (HU) code, tension does not have to be reduced by a humorous remark in order to qualify it as an (HU), i.e., a statement which is humorous or which is intended to be humorous must be made and the other person has to smile or laugh.

IN Interrupt. Code (IN) each time a person breaks in or attempts to break in with questions, statements, or actions while the other is speaking. Guidelines for the coding of (IN) are:

a) If A is speaking and B attempts to break in, code (IN) for B's behavior regardless of whether or not the attempt is successful,

b) A common situation is when A speaks for awhile, pauses, and then resumes his original statement. B may break in 1) during the pause, 2) simultaneously with A's resumption, or 3) following A's resumption. Code (IN) for B's behavior only in case (3).

Acknowledging "mmhmm, yes, ya," responses are not coded (IN), i.e., if the person is not attempting to break into the conversation, but is simply indicating that he/she is listening, do not code (IN). Non-verbal attempts at interruption should not be coded (IN).

PA Physical Affection. (PA) is coded for each occasion in which one person touches the other in a friendly or affectionate manner. This code includes any gentle touch from one partner to the other, or mutual touching. This excludes prodding and grabbing. The function of these behaviors is to signal warmth or positive affect. Examples of behaviors that would be coded in this category are: holding hands, touching spouse's knee and stroking spouse's face.

PS Positive Solution. A (PS) is a proposal for change in which the speaker specifies the behavior to be changed in some detail. The proposal must be stated in terms of what the speaker wants, not what he or she does not want, and is used when a statement suggests a serious, realistic solution to a problem. A (PS) is always a suggestion for a specific action. Realistic solutions to problems not currently under discussion would also be coded (PS).

A proposal for change in which the speaker describes something he would like the other to do is also coded (PS). A (PS) statement is a request for the other to start engaging in a particular behavior or to increase the frequency of a current behavior. A (PS) can be either a request for one person to do something, or it can be a proposal that both parties do something together.

To be coded (PS), a statement must be made in a neutral or friendly tone of voice; any trace of irritation or hostility should cue the coder to consider Criticism (CR), Complaint (CP) or Put-Down (PU). For example, "If you would cut your hair, everything would be all right," (hostile tone) would be coded Criticism (CR). Another requirement for the coding of (PS) is that the proposal must be reasonable and realistic; if the proposal is clearly facetious, code Humor (HU).

A (PS) statement can be either vague or specific as long as it fits the definition outlined above. Note that (PS) is superordinate to (AG). The following are typical introductions to (PS) statements: "I think I should do more..." "I want you to..." "You should..." "Maybe if we..." "We could do..." "One way to go about it is..." "Here's a way..." "I'd like it if..." and "Let's ...".

An important aspect of proposals for change is pinpointing of the desired behavior, i.e. specifying in detail the exact nature of the change that is expected. A pinpoint can be either a question ["How can I give you more attention?", coded (PS)] or a statement ["Talking to me each night after dinner," coded (PS)]. A distinction is made between pinpoints which state what a person does want or does expect and pinpoints which state what a person does not want or does not expect. The first type of pinpoint is coded (PS), the second (AC) or (CR). For example, consider the two alternative responses to the following proposal for change: "How fast can I drive? 70 miles per hour?" (PS) "Just don't drive like a maniac." (CR). "The speed limit, whatever that is." (PS) Another example in the same vein is the following set of statements from a problem-solving session: "I wish you would stop wearing those 'holey' Levis. (CR) I'm not asking you to wear a suit, you know. (AC) I just want you to look clean." (PS)

Note that a command or an order for immediate action, such as "Talk louder," or "Be specific," are coded (CR), not (PS), even though a concrete course of action is proposed. In addition, some specialized types of behavior are included in the definition of (PS):

a) Statements which attempt to return the discussion to the relevant topic when the discussion has been sidetracked onto different issues. ("Let's go back to talking about finances," or "Weren't we talking about who would wash the dishes?")

b) Statements discussing the advantages or disadvantages of a proposed solution. ("If you got a new job, we could have a washing machine," or "If we went to the movies more often, we would have to spend more on babysitting.")

c) Statements of things a person likes. ("I really like to go fishing," or "I like to invite friends over for dinner.")

d) References to solutions which have been tried previously. ("We tried hitting Johnny and that didn't work," or "Remember when we used to discipline Johnny by hitting him?"

The first attempt during the session to get the discussion going should not be coded (PS). Thus, "Well, I guess we should start by concentrating on ..." should not be coded (PS) when made during the first 30 seconds of a discussion session.

PU Put-Down. A (PU) is a comment whose function, in the coder's judgement, is to demean or embarrass the other. (PU) is a broad category which includes a variety of unkind comments other than those which fit the definition of criticism (CR). Basically there are four types of unkind statements, as such statements may be either direct or indirect and specific or non specific; (CR) includes only those statements which are direct and specific, while (PU) includes all the other types of statements. The primary requirement for a (PU) is that, in the coder's judgement, the speaker's intent is to offend, insult, or disconcert the other. (PU) is distinguished from the other aversive codes in the following ways:

a) (PU) is directed toward the other while a Complaint (CP) is self-oriented. ["I have to say things again and again before anyone hears me," (CP) versus "Boy, you sure have a hearing problem." (PU)]

b) (PU) statements may contain elements of directness or specificity, but a (CR) must be both direct and specific. ["The problem with you is you never get up until noon," (CR) versus "The problem with you is you're lazy." (PU)]

In general, any demeaning statement using derogatory adjectives will be coded (PU).

Sarcastic statements require close attention from the coder for appropriate coding. Sarcastic statements which are clearly directed at the other person are coded (PU). Sometimes, however, the coder will encounter descriptions of a problem not clearly related to the spouse which are uttered in an irritated or bitter tone of voice. Such statements are coded (CP) as they do not reflect disapproval of the spouse so much as dissatisfaction with the world at large.

(PU) is one of the most "intuitive" categories in the system, but one which is coded with reliability. A coder achieves this reliability in difficult cases by using himself as an "insult detector": as he listens to an ambiguous statement, he asks himself, "If that statement were directed toward me, would I personally feel insulted, embarrassed, or put-down?" If so, the coder records (PU) for the statement; if not, some other category is coded. Note that, (PU) is superordinate to (HU),(CR) and (PS). For example, "What you should do is go jump in the lake," should be coded (PU) even if followed by laughter from the partner.

TO Turn-Off. A (TO) is a non-verbal response which communicates displeasure, disgust, disinterest, or disapproval, usually in reaction to something the speaker has just said. Examples are grimaces, frowns, exasperated sighs, and rolling of the eyes upward. Context cues which indicate displeasure should be taken into account. Sighs are often ambiguous; in some cases they serve merely to indicate hesitation, embarrassment or fatigue. In such cases, ignore the behavior. However, if a sigh clearly communicates displeasure with the partner, code as (TO). Include sinking down in seat when it first occurs. Note that head shaking is to be coded (DG) when it is clear that simple disagreement is being expressed. When other cues indicating disgust or disapproval accompanying head shaking, code (TO).

VA Verbal Affection. Code (VA) when expressions of liking for the spouse are made. For example, "I like you, you're nice," "You're a nice person," "Gee, you really are a nice guy," and "What a sweetheart you are," (not sarcastic), are all coded (VA). Note that in order to code (VA), the comment must pertain to affection. Verbal responses indicating approval of the acts of the partner are to be coded (AP). Compliments such as "Your hair is really attractive today," are to be coded (AP), not (VA).

FMICS Coding Sheet

D	Area No.	Name
Coded by		Date

MINUTE		INTERVAL 1	2	3	4	5	6	7	8	9	10
1	H										
	W										
2	H										
	W										
3	H										
	W										
4	H										
	W										
5	H										
	W										
6	H										
	W										
7	H										
	W										
8	H										
	W										
9	H										
	W										
10	H										
	W										

Code	H freq	W freq.	Code	H freq.	W freq.	Code	H freq.	W freq.	Code	H freq.	W freq.
AC (0)			CR (-)			HU (+)			TO (-)		
AG (+)			CS (+)			IN (-)			VA (+)		
AP (+)			DG (-)			PA (+)					
AR (+)			DR (-)			PS (+)					
CP (-)			EX (-)			PU (-)					

TOTAL	H	W	Both
AC			
Prod (+)			
Counter, (-)			

MMICS Feedback Coding Sheet

D | I "in vivo" II | Name

Coded by | Date

H

Facilitative	Disruptive
Positive	Negative
Frequent	
Negative	Positive
Rare	

W

Facilitative	Disruptive
Positive	Negative
Frequent	
Negative	Positive
Rare	

MINUTE		INTERVAL 1	2	3	4	5	6	7	8	9	10
1	H										
	W										
2	H										
	W										
3	H										
	W										
4	H										
	W										
5	H										
	W										
6	H										
	W										
7	H										
	W										
8	H										
	W										
9	H										
	W										
10	H										
	W										

Feedback Wording

POSITIVE CODES

- AG stress on agreements
- AP expression of approval
- AR acceptance of responsibility or acceptance of responsibility for changing
- CS proposals for compromise solutions
- HU humor/tension release
- PA physical affection
- PS positive solutions offered or steering discussion back on track or evaluating proposed solutions or stating personal preferences
- VA verbal affection

NEGATIVE CODES

- CP complaining
- CR criticising
- DG stress on disagreements
- DR denial of responsibility or denying responsibility for the problem or denying problem stated by spouse or not taking on responsibility
- EX excuses
- IN interrupting
- PU "put-downs"/embarrassing comments
- TO "turn-offs" through gestures

MARITAL INTERACTION CHECKLIST[1]

This checklist is used to record the frequency of each MMICS code [only 16 MMICS codes are used; (AC) is not considered]. It is to be used during the non-stop viewing of a videotape. The unit of behavior and the code definitions are the same as in the MMICS. The 6 second interval is to be used in the same manner as in the MMICS, although for recording purposes the intervals are ignored i.e. if a person complains, for example, during five intervals, place five checks in the box marked (CP).

Rater: _____ Discussion No.: _____ Couple No.: _____

Date: _____ Name: _____

CODE	HUSBAND	TOTAL FREQUENCY H	TOTAL FREQUENCY W	WIFE	CODE
NEGATIVE CODES					
CP					CP
CR					CR
NG					NG
DR					DR
EX					EX
IN					IN
PU					PU
TO					TO
POSITIVE CODES					
AG					AG
AP					AP
AR					AR
CS					CS
HU					HU
PA					PA
PS					PS
VA					VA

[1] From Dixon (Note 8).

MARITAL INTERACTION RATING SCALE (MIRS)[1]

Instructions for Use

The purpose of this scale is to obtain trained coders' subjective evaluations of the relative frequency with which both husband and wife engaged in each of the 16 MMICS behavior codes [the (AC) code is not used]. This instrument is to be completed by coders subsequent to completion of the Marital Interaction Checklist. As this scale is intended to reflect relative, rather than absolute frequencies, the guidelines listed below should be followed.

In general, the following behaviors tend to occur with fairly "high" frequency: (IN), (CR) and (PS). (AG), (AR), (CP), (DG), (DR) and (EX) tend to occur with "medium" frequency, while (AP), (CS), (HU), (PA), (PU), (TO) and (VA) tend to occur with fairly "low" frequency. While there are differences in each of these three frequency groupings, coders' ratings should be influenced by the "high", "medium" and "low" designation of a code i.e. one instance of a "low" frequency code, such as (PU), should not be given the same place on the 10-point scale as one occurrence of a "high" frequency behavior, such as (IN). If a person interrupted (IN) his/her spouse only once during the 10 minute discussion, this should be indicated by placing an X in the second box from the right (very rarely), whereas one Put-Down (PU) should be placed in the fourth box from the right hand end of the scale. The first box on the right-hand side of the scale represents never.

Another point to consider in using this scale is the relationship between the frequency with which a particular person emits behavior relative to that of other spouses whom coders have observed during testing. For example, eight (CR)s during a 10-minute discussion session can be considered as moderately frequent, and coders should place the X somewhere in the middle of the scale. However, the X should not be placed at the left-hand end (indicating very often), as this would not permit discrimination between persons who criticize much more often (for example, 22 times) during a discussion. Thus, each person's behavior should be rated relative to those of others whom coders have observed. Although this is obviously a very subjective procedure, as are most clinical evaluations, it is these subjective impressions which should be reflected in the ratings.

The ratings should also discriminate between the husband and the wife, i.e. if one interrupts more often than the other, this should be reflected in the ratings.

---

[1] From Dixon (Note 8).

MARITAL INTERACTION RATING SCALE

Rater: _____ Discussion No.: _____ Couple No.: _____

Date: _____ Name: _____

DURING THIS SESSION:

1)...the tone of the discussion was

very pleasant ☐☐☐☐☐☐☐☐☐☐ very unpleasant

2)...indicated that he/she agreed with spouse

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

3)...indicated approval of spouse by telling spouse that he/she favored something spouse has said or done

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

4)...indicated acceptance of responsibility

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

5)...complained about things in general (i.e. complained without explicitly blaming spouse)

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

6)...criticized spouse

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

7)...offered suggestions for compromise solutions

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

8)...indicated that he/she disagreed with spouse

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

DURING THIS SESSION:

9)...indicated denial of responsibility

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

10)...gave excuses

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

11)...relieved tension through humor

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

12)...interrupted spouse while he/she was speaking

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

13)...touched spouse affectionately

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

14)...gave positive solutions

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

15)...made comments intended to embarrass spouse by putting him/her down

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

16)...indicated that he/she was 'turned-off' through nonverbal gestures

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

17)...spoke to spouse with affection

HUSBAND very often ☐☐☐☐☐☐☐☐☐☐ very rarely

WIFE very often ☐☐☐☐☐☐☐☐☐☐ very rarely

PLEASE COMMENT ON ANY DIFFICULTIES YOU HAVE HAD IN MAKING THIS RATING ON THE REVERSE SIDE OF THIS FORM

APPENDIX E

Supplementary Data Analyses

Table E.1

Means and Standard Deviations of Demographic Variables

Group[a]	Length of Marriage	No. of Children	Age	Years of Education	MAS	PCI	No. of disagreements
			Means				
Video self							
Feedback yes	9.8	2.0	31.9	13.1	80.4	88.3	14.4
Feedback no	10.0	1.8	33.4	12.0	87.2	87.2	17.9
Video spouse							
Feedback yes	11.0	2.3	36.3	14.9	88.1	94.5	12.8
Feedback no	15.7	2.5	38.3	12.9	75.3	89.3	15.7
Video both							
Feedback yes	7.7	1.0	32.5	12.5	83.9	85.3	16.3
Feedback no	16.0	2.3	40.5	13.0	81.7	85.4	16.9
No video placebo							
Feedback yes	9.8	2.0	34.8	13.6	83.8	86.7	12.2
Feedback no	12.8	2.2	39.0	13.9	79.5	85.7	15.5
All groups	11.6	2.0	35.8	13.2	82.5	87.8	15.2
			Standard deviations				
Video self							
Feedback yes	7.6	1.6	7.6	2.8	26.4	13.5	4.7
Feedback no	6.4	0.9	7.5	2.6	23.8	12.0	4.4
Video spouse							
Feedback yes	9.2	1.3	9.8	1.3	17.8	12.7	2.9
Feedback no	7.7	1.2	7.4	3.5	29.2	9.8	3.4
Video both							
Feedback yes	11.0	1.6	11.9	2.4	22.4	14.2	4.1
Feedback no	9.9	1.4	11.2	4.6	20.3	14.5	6.1
No video placebo							
Feedback yes	6.1	1.4	5.8	3.2	18.6	8.5	4.3
Feedback no	5.6	1.6	6.1	2.2	24.1	12.7	3.6
All groups	8.3	1.4	8.9	3.1	22.6	12.3	4.5

[a] n = 12 for each group (6 males, 6 females).

Table E.2

Analyses of Variance on Demographic Variables

Source	SS	DF	MS	F[a]
		Length of marriage		
Groups	774.602	15	49.640	0.681
Error	5830.273	80	72.878	
		Number of children		
Groups	18.291	15	1.219	0.568
Error	171.666	80	2.146	
		Age		
Groups	996.629	15	66.442	0.818
Error	6496.570	80	81.207	
		Education		
Groups	20.558	15	1.371	1.608
Error	68.166	80	0.852	
		MAS		
Groups	2606.686	15	173.779	0.303
Error	45884.996	80	573.562	
		PCI		
Groups	1273.198	15	84.880	0.520
Error	13047.023	80	163.088	
		Number of disagreements		
Groups	348.900	15	23.260	1.168
Error	1593.492	80	19.919	

[a]All F values n.s., $p > .05$.

Table E.3

Means and Standard Deviations of Pre-Test Productive and Counterproductive Category Behaviors

	Category			
	Productive		Counterproductive	
Group[a]	M	SD	M	SD
Video self				
Feedback yes	19.33	10.55	36.17	19.49
Feedback no	12.58	7.47	41.17	18.24
Video spouse				
Feedback yes	16.42	12.33	34.92	15.32
Feedback no	12.50	9.57	38.58	20.87
Video both				
Feedback yes	14.67	10.48	45.67	24.87
Feedback no	18.50	9.93	37.75	10.72
No video placebo				
Feedback yes	20.25	7.67	32.25	8.84
Feedback no	14.58	8.74	36.17	12.86
All groups	16.10	9.76	37.83	16.98

Note. Scores are expressed as 10 x rate per minute.

[a] $n = 12$ for each group (6 males, 6 females)

Table E.4

Analyses of Variance on Pre-Test

Productive and Counterproductive Category Behaviors

Source	SS	DF	MS	F[a]
Productive				
Groups	1448.249	15	96.550	1.015
Error	7606.539	80	95.082	
Counterproductive				
Groups	5453.190	15	363.546	1.327
Error	21921.930	80	274.024	

[a] All F values n.s., $p > .10$.

Table E.5

Means and Standard Deviations of Productive and Counterproductive Category Pre-Test, Post-Test and Change Scores

Group[a]	Productive			Counterproductive		
	Pre	Post	Change[b]	Pre	Post	Change[c]
	Means					
Males						
Video self						
Feedback yes	19.33	19.17	-0.17	33.00	33.83	0.83
Feedback no	15.50	12.17	-3.33	27.67	28.33	0.67
Video spouse						
Feedback yes	19.83	18.50	-1.33	25.83	36.00	10.17
Feedback no	14.00	13.00	-1.00	34.67	34.00	-0.67
Video both						
Feedback yes	19.50	18.67	-0.83	44.83	38.83	-6.00
Feedback no	18.50	17.00	-1.50	33.33	33.50	0.17
No video placebo						
Feedback yes	16.83	17.33	0.50	31.33	35.17	3.83
Feedback no	14.50	14.50	0.00	31.17	30.00	-1.67
Females						
Video self						
Feedback yes	19.33	18.33	-1.00	39.33	37.00	-2.33
Feedback no	9.67	12.67	3.00	54.67	51.67	-3.00
Video spouse						
Feedback yes	13.00	19.67	6.67	44.00	35.50	-8.50
Feedback no	11.00	10.00	-1.00	42.50	46.67	-4.17
Video both						
Feedback yes	9.83	11.83	2.01	46.50	45.33	-1.17
Feedback no	18.50	15.17	-3.33	42.17	39.50	-2.67
No video placebo						
Feedback yes	23.67	22.33	-1.33	33.17	35.33	2.17
Feedback no	14.67	15.83	1.17	41.17	32.17	-9.00

Note. All scores expressed as 10 x rate per minute.

[a] $n = 6$ for each group.

[b] Positive scores indicate improvement.

[c] Negative scores indicate improvement.

Table E.5 (continued)

Group[a]	Productive			Counterproductive		
	Pre	Post	Change	Pre	Post	Change
	Standard deviations					
Males						
Video self						
Feedback yes	4.18	9.56	9.15	19.77	12.61	16.79
Feedback no	9.24	5.57	5.57	11.69	11.29	8.12
Video spouse						
Feedback yes	13.14	5.47	10.67	8.18	12.47	5.66
Feedback no	12.85	8.32	13.52	14.25	18.96	11.78
Video both						
Feedback yes	10.17	15.67	10.76	25.66	23.03	20.95
Feedback no	10.90	15.03	9.33	11.17	11.22	9.56
No video placebo						
Feedback yes	6.31	7.97	6.98	11.79	11.94	7.94
Feedback no	6.90	9.57	13.28	9.45	10.24	10.57
Females						
Video self						
Feedback yes	15.08	11.50	18.90	20.51	12.26	17.50
Feedback no	4.08	6.83	8.74	12.55	13.59	7.93
Video spouse						
Feedback yes	11.56	13.57	4.59	15.86	11.04	8.12
Feedback no	5.55	6.16	3.41	26.81	23.65	14.13
Video both						
Feedback yes	9.07	8.42	3.58	26.47	27.78	14.16
Feedback no	9.92	7.63	8.57	9.02	6.89	9.56
No video placebo						
Feedback yes	7.84	15.60	15.36	5.57	17.86	15.54
Feedback no	10.99	7.94	12.07	14.63	21.79	18.37

Note. All scores expressed as 10 x rate per minute.

[a] $n = 6$ for each group.

Table E.6

Analyses of Variance on Rate per Minute Productive and Counterproductive Category Change Scores

Source	SS	DF	MS	F[a]
		Productive category		
A (Gender)	71.758	1	71.758	0.647
B (Video)	39.527	3	13.176	0.119
C (Feedback)	41.340	1	41.340	0.373
A x B	71.777	3	23.926	0.216
A x C	2.344	1	2.344	0.021
B x C	100.359	3	33.453	0.302
A x B x C	216.859	3	72.286	0.652
Error	8868.039	80	110.850	
		Counterproductive category		
A (Gender)	297.508	1	297.508	1.745
B (Video)	169.691	3	56.564	0.332
C (Feedback)	41.340	1	41.340	0.242
A x B	200.938	3	66.979	0.393
A x C	31.508	1	31.508	0.185
B x C	389.438	3	129.813	0.761
A x B x C	942.434	3	314.145	1.842
Error	13639.352	80	170.492	

[a] All F values n.s., $p > .10$.

Table E.7

Means and Standard Deviations of Log Productive and Counterproductive Category Change Scores

	Category			
	Productive[b]		Counterproductive[c]	
Group[a]	M	SD	M	SD
Males				
Video self				
Feedback yes	-0.017	0.567	0.112	0.523
Feedback no	-0.163	0.460	0.034	0.240
Video spouse				
Feedback yes	0.035	0.545	0.299	0.152
Feedback no	0.270	0.992	-0.093	0.449
Video both				
Feedback yes	-0.155	0.778	-0.139	0.394
Feedback no	-0.413	0.810	0.008	0.266
No video placebo				
Feedback yes	0.013	0.500	0.123	0.275
Feedback no	-0.018	0.850	-0.033	0.367
Females				
Video self				
Feedback yes	-0.101	1.118	0.001	0.426
Feedback no	0.163	0.947	-0.063	0.141
Video spouse				
Feedback yes	0.435	0.243	-0.197	0.178
Feedback no	-0.214	0.522	0.143	0.230
Video both				
Feedback yes	0.298	0.631	-0.224	0.713
Feedback no	-0.146	0.430	-0.056	0.241
No video placebo				
Feedback yes	-0.187	0.554	-0.029	0.436
Feedback no	0.112	0.650	-0.374	0.644

Note. Code frequencies were transformed to natural log scores before being summed into category totals. Change score values are post-test minus pre-test category totals.

[a] $n = 6$ for each group.

[b] Positive scores indicate improvement.

[c] Negative scores indicate improvement.

Table E.8

Analyses of Variance on Log Productive and Counterproductive Category Change Scores

Source	SS	DF	MS	F[a]
	Productive category			
A (Gender)	0.246	1	0.246	0.501
B (Video)	0.703	3	0.234	0.478
C (Feedback)	0.199	1	0.199	0.407
A x B	0.637	3	0.212	0.433
A x C	0.041	1	0.041	0.084
B x C	0.925	3	0.308	0.629
A x B x C	1.604	3	0.535	1.092
Error	39.183	80	0.450	
	Counterproductive category			
A (Gender)	0.461	1	0.461	3.009
B (Video)	0.358	3	0.119	0.777
C (Feedback)	0.054	1	0.054	0.352
A x B	0.103	3	0.034	0.224
A x C	0.125	1	0.125	0.818
B x C	0.506	3	0.169	1.102
A x B x C	0.732	3	0.244	1.594
Error	12.249	80	0.153	

[a] All F values n.s., $p > .10$.

Table E.9

Analyses of Variance on Standard (z) Score

Productive and Counterproductive Category Change Scores

Source	SS	DF	MS	F[a]
Productive category				
A (Gender)	3.3635	1	3.3635	0.2242
B (Video)	18.9260	3	6.3087	0.4205
C (Feedback)	0.1775	1	0.1775	0.0118
A x B	14.5603	3	4.8534	0.3235
A x C	2.0444	1	2.0444	0.1363
B x C	38.6118	3	12.8706	0.8579
A x B x C	10.9441	3	3.6480	0.2432
Error	1200.2556	80	15.0032	
Counterproductive category				
A (Gender)	5.3721	1	5.3721	0.5203
B (Video)	18.5845	3	6.1948	0.6000
C (Feedback)	0.2329	1	0.2329	0.0226
A x B	5.4380	3	1.1827	0.1756
A x C	9.6074	1	9.6074	0.9305
B x C	20.7278	3	6.9093	0.6692
A x B x C	30.4077	3	10.1359	0.9817
Error	825.9956	80	10.3249	

[a] All F values n.s., $p > .10$.

Table E.10

Analyses of Variance on Productive:Total and Counterproductive:Total Proportions

Source	SS	DF	MS	F[a]
Productive:Total				
A (Gender)	0.0034	1	0.0034	0.270
B (Video)	0.0050	3	0.0017	0.131
C (Feedback)	0.0014	1	0.0014	0.108
A x B	0.0065	3	0.0022	0.170
A x C	0.0003	1	0.0003	0.023
B x C	0.0113	3	0.0038	0.298
A x B x C	0.0313	3	0.0104	0.824
Error	1.0145	80	0.0127	
Counterproductive:Total				
A (Gender)	0.0154	1	0.0154	1.203
B (Video)	0.0122	3	0.0041	0.317
C (Feedback)	0.0035	1	0.0035	0.273
A x B	0.0165	3	0.0055	0.429
A x C	0.0014	1	0.0014	0.105
B x C	0.0305	3	0.0102	0.792
A x B x C	0.0756	3	0.0252	1.965
Error	1.0262	80	0.0128	

[a] All F values n.s., $p > .10$.

Table E.11

Analyses of Variance on Productive:Counterproductive and Counterproductive:Productive Proportions

Source	SS	DF	MS	F[a]
Productive:Counterproductive				
A (Gender)	1.021	1	1.021	1.517
B (Video)	1.933	3	0.645	0.958
C (Feedback)	0.033	1	0.033	0.050
A x B	0.654	3	0.218	0.324
A x C	0.648	1	0.648	0.963
B x C	2.905	3	0.968	1.439
A x B x C	2.507	3	0.836	1.242
Error	58.847	80	0.673	
Counterproductive:Productive				
A (Gender)	0.205	1	0.205	0.112
B (Video)	2.991	3	0.997	0.547
C (Feedback)	0.007	1	0.007	0.004
A x B	2.180	3	0.727	0.398
A x C	4.904	1	4.904	2.689
B x C	2.155	3	0.718	0.394
A x B x C	9.024	3	3.008	1.649
Error	145.886	80	1.824	

[a] All F values n.s., $p > .10$.

Table E.12

Means and Standard Deviations of Number of Own and Spouse's Traits Influencing Arguments

	Object of Rating							
	Own				Spouse's			
	Causing		Preventing		Causing		Preventing	
Group[a]	M	SD	M	SD	M	SD	M	SD
Males	16.792	10.486	19.375	10.694	16.562	9.972	18.917	12.017
Females	17.167	9.992	21.292	14.801	20.750	10.909	21.083	14.813

[a] n=48 for each group.

Table E.13

Analysis of Variance on Number of Own and Spouse's Traits Influencing Arguments

Source	SS	DF	MS	F
A (Gender)	448.500	1	448.500	1.328
Error	31747.414	94	337.738	
B (Own/Spouse's)	43.335	1	43.335	1.537
B x A	99.022	1	99.022	3.513
Error	2649.877	94	28.190	
C (Cause/Prevent)	529.688	1	529.688	3.863≠
C x A	1.375	1	1.375	0.010
Error	12888.012	94	137.107	
B x C	97.000	1	97.000	1.624
B x C x A	76.145	1	76.145	1.275
Error	5614.035	94	59.724	

≠ $p < .06$.

Table E.14

Means and Standard Deviations of Causal Attribution Change Scores

Group	n[a]	Facilitative Behaviors: Own Attributed to: Emitter	Other	Topic	Facilitative Behaviors: Spouse's Attributed to: Emitter	Other	Topic	Disruptive Behaviors: Own Attributed to: Emitter	Other	Topic	Disruptive Behaviors: Spouse's Attributed to: Emitter	Other	Topic
Means													
Males													
Video self	12	-0.078	-0.444	-0.410	-0.255	-0.536	-0.539	-0.341	0.022	0.050	0.016	-0.205	0.127
Video spouse	12	0.959	0.281	0.349	-0.045	-0.657	-0.248	1.239	1.182	0.334	0.044	-0.430	0.264
Video both	11	-0.108	0.275	-0.050	0.553	0.578	0.887	-0.526	0.049	-0.019	0.393	0.417	0.173
No video placebo	11	-0.255	-0.855	-0.179	0.251	-0.147	-0.547	-0.551	-0.324	-0.203	-0.137	0.513	0.139
Females													
Video self	11	0.171	-0.153	-0.154	-0.022	-0.733	0.493	0.733	-0.376	0.210	0.249	-1.459	0.940
Video spouse	12	0.484	0.513	-0.016	0.300	0.363	-0.677	0.299	0.147	-0.282	0.295	0.093	0.012
Video both	12	0.476	0.296	-0.136	0.325	-0.255	-0.123	1.079	0.533	-0.127	0.554	0.454	-0.062
No video placebo	12	-0.798	-0.151	-0.439	-0.036	-0.275	-1.562	0.032	-0.313	0.162	0.341	0.097	-0.688
Standard deviations													
Males													
Video self		1.687	1.087	1.198	0.782	1.096	1.433	2.022	1.823	1.336	1.599	1.802	0.801
Video spouse		1.454	1.149	1.090	1.315	1.316	1.127	1.619	1.467	0.989	1.321	1.607	1.054
Video both		1.811	1.872	1.048	1.304	1.276	1.367	2.300	1.444	1.434	1.285	1.387	1.308
No video placebo		1.048	0.913	2.326	1.396	1.604	2.001	1.002	1.552	1.992	1.443	2.024	1.370
Females													
Video self		1.053	0.760	1.012	0.436	1.193	1.575	1.553	1.674	1.122	1.193	1.884	1.364
Video spouse		1.021	1.715	1.621	0.759	2.092	1.877	1.208	1.134	1.267	0.963	1.921	2.411
Video both		0.826	1.200	1.000	1.143	1.220	0.844	1.707	1.181	1.707	0.979	1.366	0.697
No video placebo		2.384	1.357	1.456	1.691	1.219	3.415	1.617	1.599	3.386	1.084	1.661	3.493

Note. Positive numbers indicate greater importance of attribution post-video than pre-video.

[a] Three subjects had to be dropped due to missing data.

Table E.15

Analysis of Variance on Causal Attribution Change Scores

Source	SS	DF	MS	F[a]
A (Gender)	0.01685	1	0.01685	0.00288
B (Video)	45.58911	3	15.19637	2.59965
A x B	5.33862	3	1.77954	0.30443
Error	496.87134	85	5.84554	
C (Own/Spouse's)	1.21533	1	1.21533	0.33796
C x A	1.56201	1	1.56201	0.43436
C x B	22.47290	3	7.49097	2.08309
C x A x B	23.61328	3	7.87109	2.18880
Error	305.66699	85	3.59608	
D (Facil./Disrupt.)	8.33290	1	8.33290	3.04640
D x A	0.24022	1	0.24022	0.08782
D x B	4.16615	3	1.38872	0.50770
D x A x B	10.08615	3	3.36205	1.22912
Error	232.50261	85	2.73532	
C x D	0.38670	1	0.38670	0.19665
C x D x A	0.04506	1	0.04506	0.02291
C x D x B	0.59021	3	0.19674	0.10004
C x D x B x A	2.34811	3	0.78270	0.39802
Error	167.15204	85	1.96649	
E (Attribution)	14.19165	2	7.09583	2.23317
E x A	6.85327	2	3.42664	1.07841
E x B	23.58789	6	3.93131	1.23725
E x A x B	23.51123	6	3.91854	1.23322
Error	540.17041	170	3.17747	
C x E	1.48120	2	0.74060	0.44730
C x E x A	0.03442	2	0.01721	0.01040
C x E x B	24.21704	6	4.03617	2.43770
C x E x A x B	14.45557	6	2.40926	1.45510
Error	281.47437	170	1.65573	
D x E	1.43938	2	0.71969	0.55487
D x E x A	8.90633	2	4.45316	3.43336
D x E x B	4.82478	6	0.80413	0.61998
D x E x A x B	4.50984	6	0.75164	0.57951
Error	220.49495	170	1.29703	
C x D x E	1.22658	2	0.61329	0.50007
C x D x E x A	1.57764	2	0.78882	0.64319
C x D x E x B	6.19376	6	1.03229	0.84172
C x D x E x A x B	1.26981	6	0.21163	0.17256
Error	208.48961	170	1.22641	

Note. Conservative degrees of freedom were used in reporting p values whenever a within-cell source of variation was tested (Winer, 1971).

[a] All F values n.s., $p > .05$.

Table E.16

Means and Standard Deviations of Pre-Intervention and Follow-Up MAS Scores

		Time of Testing			
		Pre-Intervention		Follow-Up	
Group	n	M	SD	M	SD
Males					
Feedback yes	13	89.00	16.92	95.00	20.57
Feedback no	12	79.75	23.38	80.00	18.69
Females					
Feedback yes	12	83.50	21.03	91.50	24.98
Feedback no	13	76.62	21.09	77.54	26.37

Table E.17

Analysis of Variance on Pre-Intervention and Follow-Up MAS Scores

Source	SS	DF	MS	F
A (Gender)	332.3398	1	332.3398	0.4600
B (Feedback)	3172.4961	1	3172.4961	4.3901*
A x B	18.0664	1	18.0664	0.0250
Error	33241.9492	46	722.6509	
C (Pre/Post)	359.1445	1	359.1445	1.5668
C x A	11.1445	1	11.1445	0.0486
C x B	256.6641	1	256.6641	1.1197
C x A x B	2.7461	1	2.7461	0.0120
Error	10544.5039	46	229.2283	

* $p < .05$.