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CONFLICT MANAGEMENT IN MARRIED EATING DISORDER PATIENTS: A CONTROLLED OBSERVATIONAL STUDY

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ABSTRACT

Conflict management was studied in 21 eating-disordered (ED) patients and their husbands, 21 maritally distressed (MD) and 21 non-distressed (ND) couples. On the Problem List (Hahlweg et al., 1980) ED couples reported significantly more conflict topics than ND couples, yet fewer than MD couples. The interaction during a conflict discussion was videotaped and the (verbal and nonverbal) components were rated according to the KPI coding system (Hahlweg et al., 1984). Contradicting the prediction of an unequal dominance structure, the observed interactions appeared to be more symmetrical in ED couples than in both control groups. The former also showed less positive escalation than MD couples, and less negative escalation than MD ones, and a striking tendency to neutralize conflicts. The interaction pattern most typically encountered in ED couples was asymmetric negative, with one partner acting increasingly negative and the other counteracting the escalation.

KEY WORDS • anorexia nervosa • bulimia nervosa • conflict management • eating disorders • marital relationship • non-verbal interaction • verbal interaction

There are probably very few aspects in marriage which influence the spouses' satisfaction with their relationship and their sense of psychological well-being more rigorously than their ability to successfully manage mutual

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conflicts (Canary & Cupach, 1988). This may be because in marital discord the conflict of interest, as opposed to the overt topic of disagreement, is mostly concerned with issues pertaining to the nature of the relationship itself, such as the question of who is in command, or how intimate the partners should be with one another. To the extent that the spouses' positions with regard to these issues are incompatible, conflicts are not only likely to occur more frequently, but they may also signal to the spouses that the very existence of their relationship is in jeopardy.

A second reason why conflicts are so important for a marriage is that during conflict discussions the communication between the spouses is usually more aversive than in normal circumstances. In fact, marital conflicts can be so aversive that some couples try to avoid open confrontations about issues which may generate conflict. While such an avoidance of conflicts may result in a temporary relief of tensions, it is obvious that in the long run it also prevents the spouses from finding suitable solutions for their disagreements. These unresolved conflicts are likely to inhibit the further development of the marital relationship itself.

It is precisely the latter strategy which is assumed to be typical of the way married eating-disordered patients and their husbands handle their conflicts (Dally, 1984). In fact, many authors assume a relationship between conflict avoidance and the occurrence of an eating disorder. According to Fishman (1978), for example, the anorexic symptoms serve the purpose of protecting the marital unit when it is threatened by conflict. In a similar vein, Barrett and Schwartz (1987) consider the avoidance of conflict as one of the main functions of bulimia nervosa in couples. These assumptions, however, are usually based on clinicians' subjective impressions rather than on the systematic investigation of the spouses' actual conflict tactics (Van den Broucke & Vandereycken, 1989).

As far as we know, only one study has been published thus far in which this issue was systematically addressed. Van Buren & Williamson (1988) used a self-report questionnaire to assess the conflict resolution styles of 12 bulimic couples and two comparison groups. They found that the bulimic patients resembled maritally distressed women in that they endorsed less problem-solving skills and reported more withdrawal from conflict than normal control females. Their husbands, on the other hand, did not differ from the non-distressed males with regard to their self-reported conflict resolution styles. While these findings are consistent with most of the clinical observations regarding this subject (for review, see Van den Broucke & Vandereycken, 1989), the scope of the above study was limited in several respects. First of all, it was not based on a theoretical model of marital interaction or conflict, which limits the possibility of interpreting the findings. Secondly, the patient sample only consisted of bulimic women and their husbands, which restricts the generalizability of the reported findings to one particular eating disorder. Finally, the data concerning the couples' conflict resolution styles were obtained retrospectively by means of a self-report inventory. As such, they may reveal how the subjects *think* they handle their conflicts, but they tell us very little about their actual

behaviors during conflict discussions. For that purpose, the use of observational measures instead of (or in combination with) self-reports is probably more appropriate (Notarius & Markman, 1989).

The latter approach, which entails a systems-interactionist perspective on conflict research (Cahn, 1992), was used in the present study. To our knowledge, it is the first study in which the conflict interactions of eating disorder couples are observed and analyzed. Conceptually, the study was based on the conflict model proposed by Christensen (1987), which distinguishes between three conflict parameters: the topic of the conflict, the structure of the conflict and the interaction processes during conflict. The distinction between conflict topic and structure parallels the one between the content and command level of interpersonal communication, as introduced by communication theorists (Watzlawick et al., 1967). The focus on conflict interaction processes, on the other hand, derives from the social learning theory of marital interaction (Stuart, 1969). The combination of systems and social learning principles to study the interaction between intimate partners has been elaborated in Gottman's (1979) structural model, on which Christensen's conflict model is based.

Starting from this model, four hypotheses were specified. The first two hypotheses focused on the *topics* of the conflicts. Given that eating-disordered patients and their spouses are reportedly dissatisfied with their relationships, we assumed that they would disagree about more issues than non-distressed couples. Hence our first hypothesis: eating-disordered patients and their husbands report more conflict-provoking items than non-distressed spouses.

Secondly, we assumed that the conflicts of eating-disordered couples, like those of maritally distressed ones, would concern more 'serious' topics, with which the partners are more emotionally involved. This could in fact offer a partial explanation for their alleged failure to deal with these conflicts constructively. Thus, our second hypothesis was specified as follows: the conflict topics of eating-disordered patients and their husbands are more emotionally charged than those of non-distressed spouses.

The third hypothesis focused on the *conflict structure*. From a systems theory point of view, it has been suggested that eating disorders in fact represent an indirect attempt at restoring an unequal power balance in the relationship. Stated somewhat differently, this would mean that the structure of the conflicts between these patients and their partners is characterized by an asymmetrical dominance structure, with one partner occupying a dominant position in the relationship. It will be noted that conflicts between maritally distressed husbands and wives have been found to entail such an unequal power distribution (Gottman, 1979; Kerkstra, 1985). In this context, dominance is usually defined in terms of an asymmetry in the predictability of the spouses' interventions. This means that if the behavior of partner A is more predictable from partner B's past behavior than conversely, B is said to be the dominant spouse. If on the other hand both spouses' behaviors are equally predictable from the other's previous behaviors, the relationship is said to be egalitarian (Gottman, 1979). Hence,

our third hypothesis: the conflicts between eating-disordered patients and their husbands, like those between maritally distressed spouses, entail an asymmetry in the predictability of the interactions.

Finally, the fourth hypothesis was concerned with the *interaction processes* during conflict. Drawing from the classification of conflict styles proposed by Canary & Cupach (1988) and Fitzpatrick (1988), we assumed that eating-disordered patients and their husbands would typically use an avoidance strategy to resolve their conflicts, whereas maritally distressed couples would most often use a distributive strategy (i.e. trying to maximize personal gains at the expense of the partner), and non-distressed couples an integrative one (i.e. trying to negotiate on a mutually acceptable solution of the conflict). Or, in terms of our fourth hypothesis: the interaction patterns of eating-disordered patients and their husbands during conflict discussions reflect the use of an avoidance strategy, while those of maritally distressed couples reflect a distributive, and those of non-distressed couples an integrative strategy.

An additional question was whether there would be any differences with regard to marital conflicts between relevant subgroups of eating-disordered couples. According to the clinical literature, the presence of a power struggle may be particularly characteristic of bulimic couples, as opposed to anorexic couples (Barrett & Schwartz, 1987). Finally, we also wanted to explore possible differences in patients with a premarital versus postmarital onset of the eating disorder, which as far as we know has not yet been addressed at all in the clinical literature.

Method

In order to test the hypotheses specified above, we compared a group of eating-disordered (ED) patients with two control groups. The ED patients ($N = 21$) were recruited from three different clinical settings in order to enhance representativeness (i.e. an in-patient unit of a University Psychiatric Center, an out-patient therapy practice and a self-help organization). From each setting, consecutive series of married and/or cohabiting patients (all females) were approached before the start of their treatment. All the patients approached (7 from the in-patient unit, 12 from the out-patient practice and 2 from the self-help setting) agreed to participate in the study, which in fact served as a pre-treatment diagnostic session. As verified by means of a checklist, nine patients fulfilled the criteria for bulimia nervosa specified in *DSM-III-R*, and 12 those of anorexia nervosa. Of the latter, nine patients were strict dieters, and three showed a mixed bulimic-anorexic symptomatology. The duration of the patients' illness varied between 1.5 and 18 years, with an average of 5 years at the moment of investigation. In 8 cases (38% of the sample) the eating disorder had preceded the beginning of the relationship with the spouse. Seventeen patients (81%) were married; the remaining four were cohabiting with their partner.

The two control groups were composed of maritally distressed and maritally and psychologically non-distressed couples, respectively. The couples in the 'marital distress' (MD) group ($N = 21$) were recruited via a marital consultation service, where they had applied for marital therapy. The presence of

marital distress was verified by their scores on the Maudsley Marital Questionnaire (MMQ; Arrindell et al., 1983), indicating that the husbands and wives in this sample attained similar scores on marital, sexual and general life dissatisfaction as a norm group of maritally distressed couples. The couples in the 'non-distressed' (ND) sample ($N = 21$) were volunteers, recruited through the intermediary of a community social service. The absence of psychological and marital distress was checked by means of a symptom checklist (SCL-90; Arrindell & Ettema, 1986) and a marital satisfaction questionnaire (MMQ), which in both cases indicated that the husbands and wives in this group were similar to norm groups of non-distressed couples. The two control groups did not differ significantly from the eating disorder group with respect to age, duration of the relationship, marital status, number of children and social class.

Table 1 lists the group means and standard deviations on the MMQ and SCL-90 control measures. As this table indicates, the ED patients and their husbands scored significantly higher than the ND spouses with respect to marital and sexual dissatisfaction, whereas their MMQ-scores were not significantly different from those of the MD couples. This indicates that the latter group represented an adequate control for marital distress. With respect to psychological distress, the ED patients scored significantly higher than the ND wives on all symptom scales, and higher than the MD wives on anxiety ($p = .02$), depression ($p = .02$), insufficiency ($p = .03$) and sleep disturbance ($p = .05$). In contrast, their husbands did not differ significantly from the ND couples on any of the scales, and actually obtained lower scores than the MD husbands on interpersonal sensitivity ($p = .03$) and hostility ($p = .01$). As such, these scores indicate that both control groups differed from the ED patients (yet not from their husbands) with respect to psychopathology.

Each couple participated in a separate assessment session, involving five stages: (1) after a joint briefing about the general procedure of the session, the partners were placed in separate rooms to complete some self-report inventories; (2) the two partners were brought together in a room equipped with a video camera and one-way screen, and completed a mutual decision task, which was intended as a 'warm-up' for the next two stages; (3) the couples were asked to discuss a low-conflict topic determined by way of a standardized instruction — their interactions during this discussion were monitored through the one-way screen and videotaped (the mean duration of the discussion, for which there was no time limit, was 5 mins 57 secs); (4) the fourth stage was similar to the previous one, except that the couples were now instructed to discuss a high-conflict topic, chosen from a list of personally relevant conflict topics (the mean duration of the interaction was 6 mins 40 secs); (5) to conclude the session, the participants were debriefed and given the opportunity to ask questions about the session.

For the purpose of this study, only the material obtained during stages 1 and 4 was used. The data from the other stages are reported elsewhere (Van den Broucke et al., in press).

Measures

Self-report measures. The number and content of the couples' conflict topics were assessed by means of the *Problem List* (PL; Hahlweg et al., 1989), a 17-item inventory of possible problem areas in a marriage: relatives, finances, job, household, childcare, leisure time, personal habits, friendships, temperament,

TABLE 1
Group means and standard deviations on the scales of the MMQ and SCL-90

		ED (N = 21)		ND (N = 21)		MD (N = 21)		Univariate tests		Pair-wise contrasts	
		$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	F	p	ED/ND	ED/MD
<i>MMQ</i>											
Marital	H	22.8	13.8	10.1	5.1	30.5	12.1	17.574	.000	*	—
	W	25.7	17.3	9.6	5.3	35.6	15.8	18.035	.000	*	—
Sexual	H	18.8	11.7	6.1	5.1	16.8	10.4	10.373	.000	*	—
	W	19.4	10.9	5.0	3.8	16.0	9.4	15.627	.000	*	—
General life	H	10.7	4.7	9.4	5.1	11.4	5.4	.847	.434	—	—
	W	16.9	7.7	6.5	4.0	14.3	5.1	17.619	.000	*	—
<i>SCL-90</i>											
Anxiety	H	14.3	5.1	12.9	3.3	15.2	6.4	.950	.392	—	—
	W	24.6	9.3	12.1	2.2	18.7	6.7	16.957	.000	*	*
Agoraphobia	H	8.1	3.1	7.7	1.1	8.9	4.3	.676	.513	—	—
	W	11.0	4.4	7.9	1.3	10.1	3.7	4.567	.014	*	—
Depression	H	24.6	8.3	21.7	6.6	26.1	9.1	1.395	.256	—	—
	W	45.6	10.6	20.1	3.5	36.2	13.1	33.518	.000	*	*
Somatization	H	16.6	4.0	15.3	3.1	17.7	7.6	1.026	.365	—	—
	W	24.2	7.3	15.8	3.7	23.3	9.6	8.354	.001	*	—
Insufficiency	H	14.0	3.5	14.1	3.6	16.1	5.6	1.473	.238	—	—
	W	22.3	6.4	11.4	2.7	18.0	5.9	22.532	.000	*	*
Sensitivity	H	25.1	6.9	24.3	4.8	31.5	11.2	4.817	.012	—	—
	W	42.9	14.9	23.2	4.2	34.9	11.3	16.031	.000	*	*
Hostility	H	7.8	1.8	7.5	1.4	10.3	3.7	7.506	.001	—	—
	W	11.4	4.1	7.2	1.4	10.1	2.4	10.700	.000	*	*
Sleep disturbance	H	5.2	2.9	4.8	2.0	4.9	2.4	.242	.786	—	—
	W	8.3	3.5	4.2	1.8	6.0	3.8	8.440	.001	*	*

* $p < .05$.

jealousy, values, affection, attractiveness, trust, personal freedom, sexual relation, extramarital relations. The items are rated on a 4-point scale (0 = no problems; 1 = problems, but we can usually solve them; 2 = problems which are difficult to solve and which we often quarrel about; 3 = problems we don't even discuss any more, since we cannot find any solutions for them). An overall 'conflict score' is obtained by summing the items with a score of 2 or 3 for each partner separately. The PL has a sufficient degree of reliability (test-retest after 6 months = .66) and has a proven capacity to discriminate between maritally distressed and non-distressed couples.

Observational measures. For the assessment of the conflict structure and the conflict interaction processes, the couples' videotaped discussions obtained during stage 4 of the data collection procedure were analyzed. To that effect, the ongoing stream of interactions was segmented into analyzable units by using a micro-analytic coding system, the *Kategoriensystem für Partnerschaftliche Interaktion* or KPI (Hahlweg et al., 1984). This system contains 12 content codes (self-disclosure, positive solution, acceptance, agreement, problem description, meta-communication, criticism, negative solution, justification, disagreement, listening and rest category) and three nonverbal codes (positive, neutral and negative nonverbal behavior). To code an interaction segment, each 'coding unit', i.e. each verbal response that is homogeneous in content, irrespective of its duration or syntactic structure, is assigned one content code and one nonverbal code. To ensure alternation between speakers, the 'listener' code is assigned in cases where multiple coding is required within one speaker's turn. For this study, the coding was done by one principal coder, while 10 randomly selected segments (totalling one full hour of interaction, or 7% of the total corpus) were coded by an additional coder to assess the inter-observer reliability. In addition, 15 one-minute interaction segments were coded twice by the principal coder, with time intervals ranging between 3 and 10 months, to control for temporal stability. The resulting intra- and inter-observer agreement indices (Cohen's kappa) were .86 and .83 for the verbal codes, and .85 and .80 for the nonverbal codes, respectively, which allows us to conclude that the observational data base is sufficiently reliable to enable further analysis.

For the purpose of this study, a collapsed version of the KPI was used, in which the positive codes of Self-disclosure, Positive Solution, Acceptance, Agreement and Positive Listening were collapsed into an overall 'Positive Communication' category; the Problem Statement, Meta-communication and Neutral Listening codes into a 'Neutral Information' category; and the Criticism, Negative Solution, Justification, Disagreement and Negative Listening codes into a 'Negative Communication' category. The three nonverbal codes remained uncollapsed.

Specific analyses

Dominance structure. To assess the dominance structure in the present study, we used the information theoretical approach suggested by Kerkstra (1985). This approach starts from the notion of uncertainty, i.e. the amount of information that is missing to predict a certain event, such as a person's communicative behavior. Referring to the variability of the behavioral sequences of partner A and B, a reduction of predictive uncertainty is measured by the coefficient of cross-covariability (Losey, 1978), which is basically a measure of the degree to which partner A's behavior can be predicted

from partner B's preceding behavior (see Appendix). In this way, one can determine the dominance structure in a given relationship by comparing the cross-covariabilities between the husband's behavior and the wife's subsequent behavior, and between the wife's behavior and the husband's subsequent behavior, respectively. Note that this approach provides a *global* measure of dominance, and not one with regard to different combinations of behaviors. Apart from being a very elaborate task, testing for each possible combination of codes would dramatically inflate the risk of type I errors.

K-gramm analysis. To unravel the couples' conflict interaction processes, the sequential patterning of the spouses' conflict interventions were inspected by means of K-gramm analysis (Revenstorf et al., 1984), which is a sequential micro-analytic technique by means of which, for a small set of codes, patterns of a given length (so-called 'K-gramm patterns') can be detected (e.g. on the nonverbal level: a neutral intervention from the wife is followed by a negative intervention from the husband, and again a neutral intervention from the wife). For a given K-gramm pattern, the conditional probability of the last response is computed given the foregoing sequence. This enables one to draw up a 'probability tree', representing the likelihood with which each interaction sequence of a given length occurs during the course of the discussion. Unlike the more 'traditional' sequential analysis techniques, such as lag sequential or log linear analysis, this method reveals real chains of behavior, rather than events that are more and more distant from the initial antecedent.

For the present study we used a PC version of the SEQANA computer program (Henrich, 1983) to identify K-gramm patterns for the sequences of collapsed verbal and nonverbal codes obtained from the couples' high-conflict discussions. Because the numbers of observations per couple were too small to apply sequential analysis for each couple separately (sequence lengths varying between <20 and >110), a more reliable data base was obtained by pooling the data across couples in each group. It should be noted, however, that statistical evaluations of the differences between groups are not legitimate when aggregate data are used (Bakeman & Gottman, 1986). Therefore, the results of these analyses can only be given in a descriptive way.

Cumulative response curves. Since the K-gramm analysis only yielded descriptive data and provided relatively short interaction sequences (approximately 1 minute on average), the couples' conflict interaction processes were also assessed by performing a second type of analysis on the same data. Using a technique introduced by Gottman et al. (1977) and perfected by Schaap (1982) and by Hooley & Hahlweg (1986), we plotted the course of each couple's entire conflict discussion in a two-dimensional space, with the abscissa referring to the sequence of the interactions, and the ordinate to the affective quality of the communications. With each successive response, the plotter moves upward, downward or parallel with the abscissa, depending on whether the intervention is positive, negative or neutral. The scoring rules used for the construction of the graphs were borrowed from Schaap (1982), and can be summarized as follows: (1) a positive verbal code = +1; (2) a positive nonverbal code = +1; (3) a negative verbal code = -1; (4) a negative nonverbal code = -1; (5) a neutral verbal or nonverbal code = 0; and (6) the combination of a positive verbal code and a negative nonverbal code = -2. The latter scoring rule reflects the fact that a positive verbal behavior delivered with a negative nonverbal behavior is often perceived as sarcasm, whereas the

opposite mostly results in a weakening of the negative affect. As a result of the plotting procedure, two superimposed profiles are obtained, each representing the cumulative record of one spouse's interaction quality. These profiles can then be classified according to the style of the conflict interactions.

Results

In order to test for possible differences between the relevant ED subgroups, as defined according to the type of the disorder (abstaining anorexia nervosa, binge/purge anorexia nervosa or bulimia nervosa) or to the timing of its onset (premarital or postmarital), preliminary analyses were performed on the scores of the Problem List and the relative frequencies of the KPI codes. On account of the small subsample sizes, these analyses were done by means of nonparametric tests (i.e. Kruskal-Wallis one-way ANOVAs and Mann-Whitney *U*-tests, respectively). Since no significant differences were found between the subsamples of interest, the ED couples were treated as a homogeneous sample for all the subsequent analyses.

Number of conflict topics

The first hypothesis investigated in this study stated that the ED patients and their husbands would report more conflict-provoking items than ND couples. In order to test this hypothesis, an overall 'conflict score' on the Problem List, indicating the number of significant conflict-producing areas in one's relationship, was computed for each subject. The mean conflict scores obtained in each group were: 2.86 (SD = 3.40) for the ED husbands, .86 (SD = 1.11) for the ND husbands, 4.33 (SD = 3.15) for the MD husbands, 3.38 (SD = 3.12) for the ED wives, .33 (SD = .58) for the ND wives and 6.00 (SD = 3.85) for the MD wives. As expected, a substantial difference is observed between the three groups, whereby the MD spouses mark the highest number of conflict-provoking topics and the ND spouses the lowest. The ED spouses apparently take up an intermediate position. The importance of this group difference is attested by the results of a two-way (group $\times$ gender) analysis of variance, indicating a highly significant between-couples effect of the group ($F(2,60) = 20.68, p < .001$). In contrast, both the within-couples effect of gender ($F(1,60) = 1.87, NS$) and the group by gender interaction effect ($F(2,60) = 2.42, NS$) appear non-significant, which implies that the relative numbers of conflict areas reported by the husbands and the wives do not markedly differ across groups. Subsequent analyses of the pair-wise differences for the group effect (by means of multiple *t*-tests) demonstrated that the conflict scores of the ED patients and their husbands differ significantly from those of both ND and MD husbands and wives ($t(40) = 3.554, p = .001$; and $t(40) = -2.876, p = .006$, respectively).

Content of conflict topics

According to our second hypothesis, the conflict topics of ED patients and their husbands were expected to be more emotionally charged than those of ND spouses. To investigate this issue, qualitative analyses of the couples' responses in the Problem List were performed. First, it was verified whether the data of the husbands and wives had to be analyzed separately, by way of computing within-couple rank-order correlations (Spearman's ρ s) between the husbands' and the wives' ratings for each item. The resulting median rank-

order correlations were .50 for ED couples, .60 for ND couples, and .49 for MD couples. Since these median correlations were all significant ($p < .05$), it was decided to analyze the data on the couple level.

The next step was to determine the relative importance of the conflict topics for the couples in the different groups. This was achieved by tallying how often each item of the Problem List received a rating of 2 or 3 (i.e. moderate or severe conflict) from at least one of the spouses. For each of the groups, the topics were then ranked on the basis of the frequency of their endorsement.

TABLE 2
Frequency of conflict topics mentioned by each couple

Conflict area	ED couples		ND couples		MD couples	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Sexual relation	13	62	0	0	12	57
Leisure time	9	43	2	10	14	67
Affection	8	38	0	0	8	38
Temperament	8	38	1	5	15	71
Relatives	7	33	5	24	11	52
Friendships	7	33	1	5	6	29
Values	7	33	0	0	11	52
Personal habits	6	29	2	10	13	62
Childcare	5	24	2	10	9	43
Trust	5	24	0	0	8	38
Personal freedom	5	24	0	0	8	38
Job	4	19	2	10	13	62
Household	4	19	2	10	10	48
Attractiveness	4	19	0	0	4	19
Finances	3	14	4	19	5	24
Jealousy	3	14	1	5	6	29
Extramarital relations	2	10	0	0	6	29

Table 2 shows the frequency of conflict topics reported by the three groups. As hypothesized, there is a considerable difference between the rankings for ED and ND couples: for the former group, the items which induce most conflict are predominantly concerned with more personal issues (e.g. the sexual relationship, the degree of affection in the relationship and the partner's temperament), whereas for the latter group most conflicts are about the instrumental aspects of marriage (e.g. finances, job, household management, childcare, etc.), or about issues which do not concern the marital relationship itself (e.g. the relationship with relatives). This qualitative difference is substantiated by the non-significant rank-order correlation between the data of the two groups (Spearman's $\rho = -.036$, NS). On the other hand, the rank order of the conflict topics for ED couples does resemble that for MD ones, whose conflicts are also most often concerned with emotionally charged issues. Accordingly, the rank-order correlation between the data of the latter two groups is highly significant (Spearman's $\rho = .612$, $p < .009$). For completeness' sake, we may mention that the correlation between the rankings of ND and MD couples is not significant (Spearman's $\rho = .324$, NS), indicating that

distressed and non-distressed spouses apparently argue about different kinds of issues.

Dominance structure

According to our third hypothesis, we expected an asymmetry in the predictability of the conflict interactions of the ED patients and their husbands similar to that of the MD couples. This hypothesis was tested by assessing the asymmetry of the couples' coded interactions during their high-conflict discussions. For that purpose, two transition matrices were composed per couple and per communication channel (verbal and nonverbal): the first matrix contained the first-order transitions of the husband's to the wife's behavior, and the second one the transitions from the wife's to the husband's behavior. On the basis of these transition matrices, cross-covariability coefficients were computed for the husband-to-wife and wife-to-husband transitions.

TABLE 3
Mean cross-covariability coefficients for the husband-to-wife and wife-to-husband transitions

	Verbal communication				Nonverbal communication			
	H-W	W-H	<i>t</i>	<i>p</i>	H-W	W-H	<i>t</i>	<i>p</i>
ED couples	.09	.09	-.27	.79	.08	.07	.39	.77
ND couples	.13	.10	1.34	.20	.13	.16	-1.36	.19
MD couples	.08	.07	.90	.38	.08	.10	-1.93	.07

H-W = husband-to-wife; W-H = wife-to-husband.

The mean cross-covariability coefficients for the verbal and nonverbal interactions of the three groups are presented in Table 3. In order to infer the couples' dominance structure from this table, one must consider the difference between the cross-covariabilities for both types of transitions: the larger this difference, the less egalitarian are the spouses' interactions, whereby the partner whose behavior is most predictive of the other one's subsequent behavior is the more dominant one.

As inferred from these differences, tested by means of paired *t*-tests, the dominance structure in both ND and MD couples is more asymmetrical than that of ED couples, although with regard to the verbal communication the differences are still not significant for either of these groups. With regard to the nonverbal communication, the difference between the cross-covariability coefficients of MD spouses approximates the .05 significance level, indicating that the wives' behavior is more predictive of the husbands' subsequent behavior than vice versa. The latter finding is partly consistent with the reported asymmetrical dominance structure in the nonverbal communication of maritally distressed couples (as opposed to that of non-distressed couples), with the exception that it is mostly the husbands, rather than the wives, who are found to be the more dominant partners (Gottman, 1979; Kerkstra, 1985).

Whereas the fact that our findings regarding MD and ND couples to a large extent concur with those of other studies attests to the validity of our analyses, the major conclusion to be retrieved from these data within the scope of our actual research question concerns the dominance structure in the relationships of ED patients and their husbands. In this regard, the findings apparently do not support the hypothesis that the conflicts between the patients and their

FIGURE 1a
Generalized interaction patterns for the verbal interactions of the ED, ND and MD couples during conflict: (i) positive escalation; (ii) negative escalation; (iii) conflict neutralization.

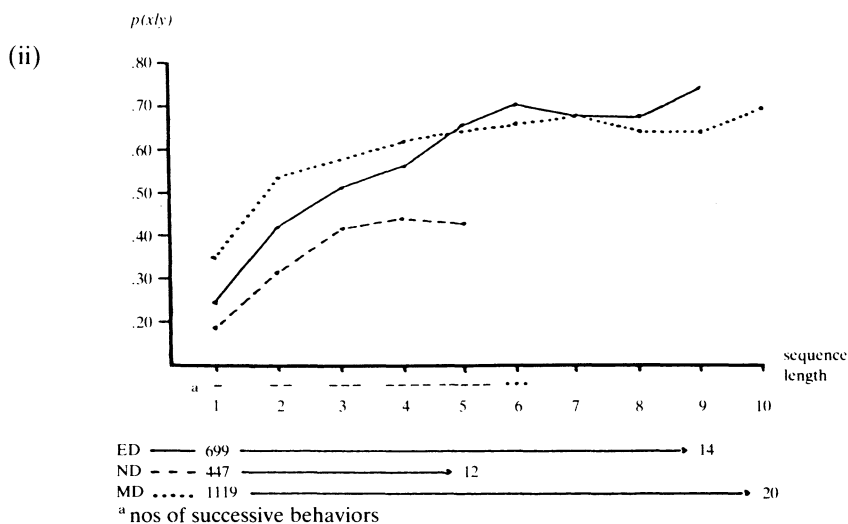
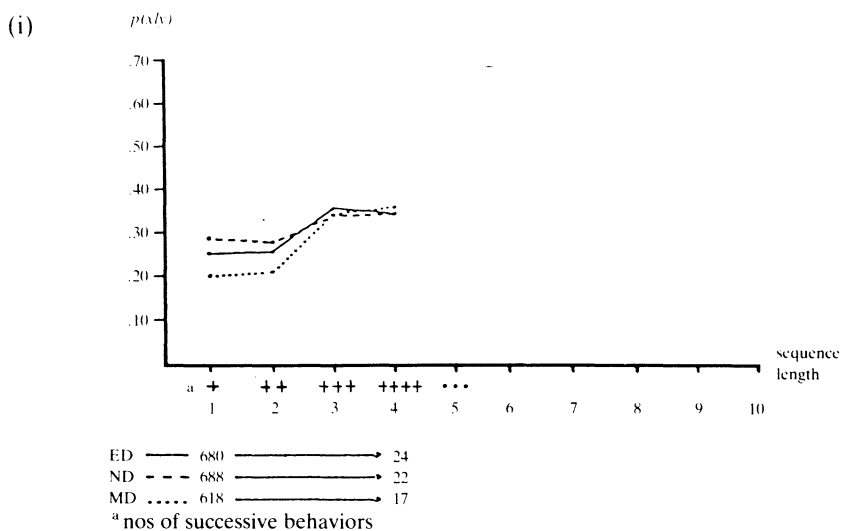
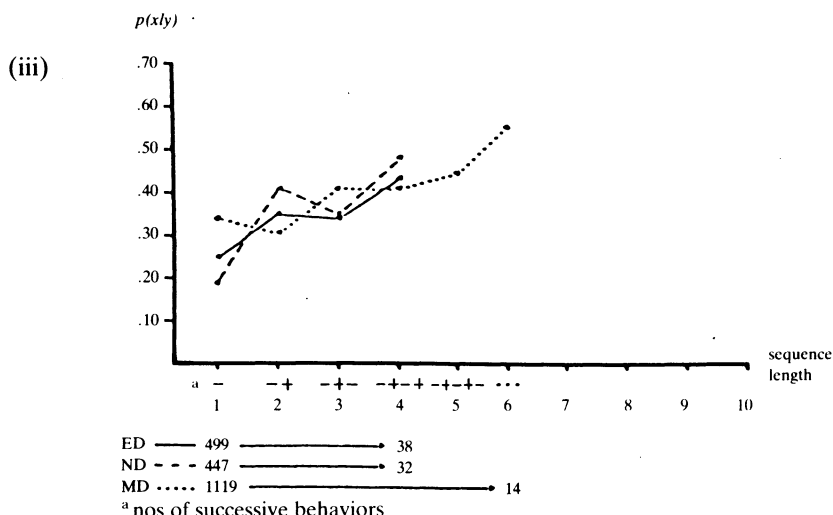


FIGURE 1a (continued)


husbands entail an asymmetrical distribution of power. On the contrary, their communication during conflict discussions generally reflects a highly egalitarian structure.

Interaction patterns during conflict

Our fourth and final hypothesis stated that the conflict interaction patterns of the ED patients and their husbands would reflect the use of an avoidance strategy, while the conflict interactions of MD couples were expected to reflect a distributive, and those of ND couples an integrative strategy. To investigate this hypothesis, we may first consider the results of the *K-gramm analysis*. Since not all the possible interaction sequences were equally important in this regard, three a priori generalized interaction patterns were defined, reflecting the three conflict resolution strategies of interest (Revenstorf et al., 1984): (1) 'Positive Escalation' was defined as a succession of positive behaviors of both partners; (2) 'Negative Escalation' as a succession of negative behaviors of both partners; and (3) 'Conflict Neutralization' as an alternation between one partner's negative behaviors and the other partner's neutral responses. For both the verbal and nonverbal interaction, all patterns with a minimum relative frequency of .005 and a sequence length up to 10 were included in the analysis.

As a result of this analysis, Figure 1 shows the generalized interaction patterns of interest for the verbal and nonverbal interaction of the couples in the three groups. In this figure, the abscissa refers to the length of the sequence (N), and the ordinate to the conditional probabilities of the responses given the foregoing sequence ($N-1$). The numbers of observations at each lag are shown below the graph.

As the first part of Figure 1 indicates, the positive escalation and conflict neutralization patterns for the *verbal behavior* of the ED couples are quite similar to those of the ND couples, both in terms of the base rate and conditional probabilities as well as sequence length. In contrast, ED couples'

FIGURE 1b
Generalized interaction patterns for the nonverbal interactions of the ED, ND and MD couples during conflict: (i) positive escalation; (ii) negative escalation; (iii) conflict neutralization.

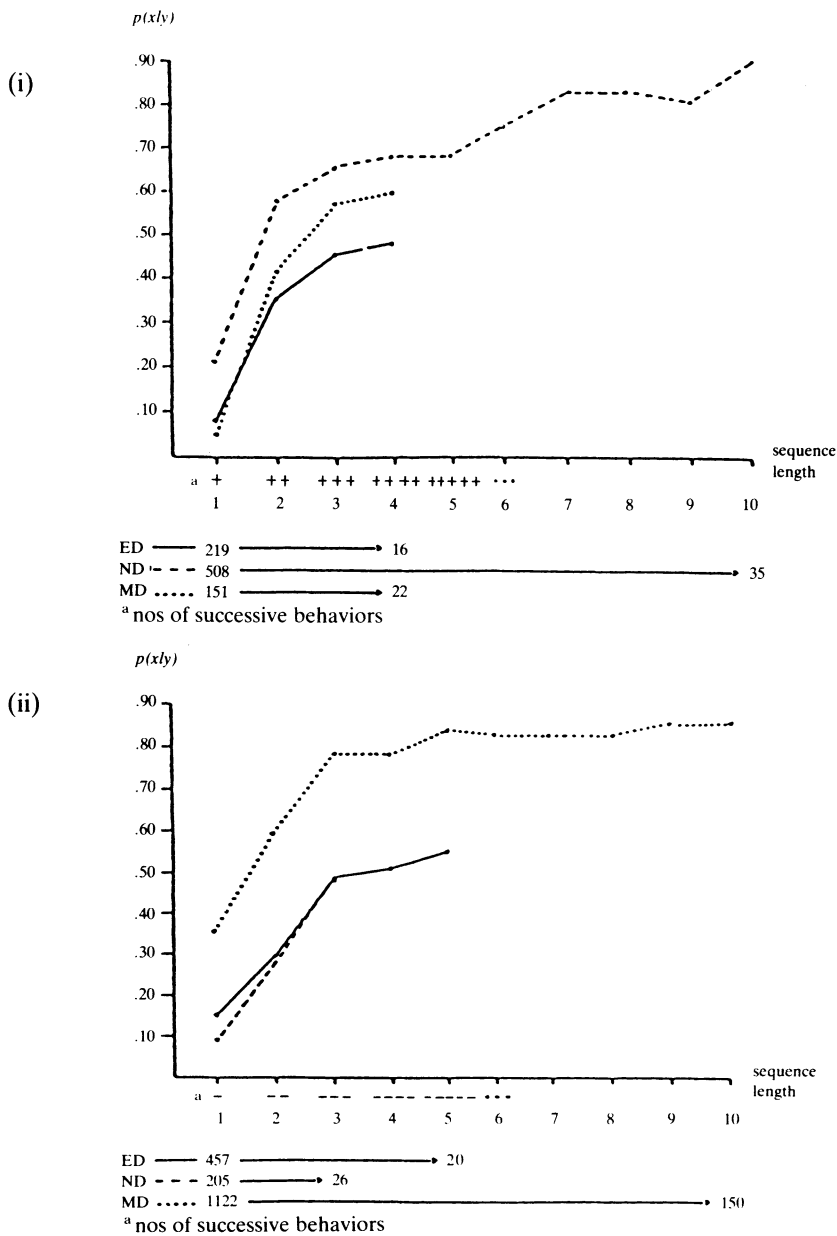
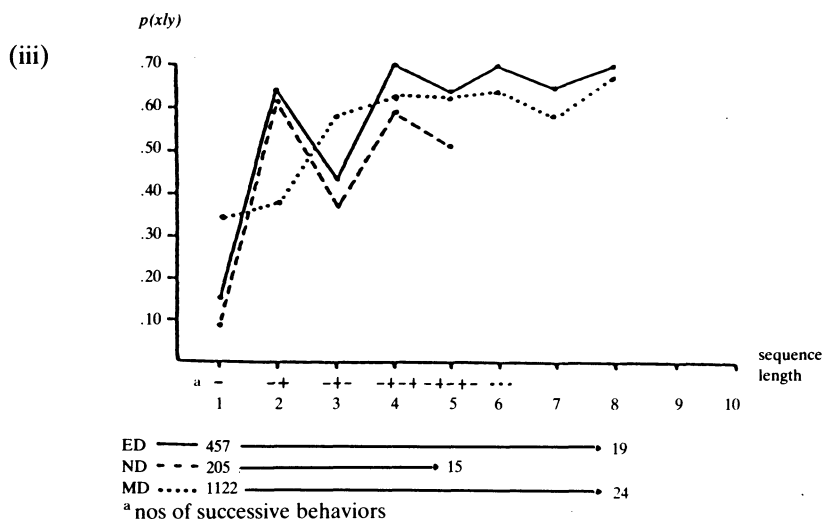


FIGURE 1b (continued)


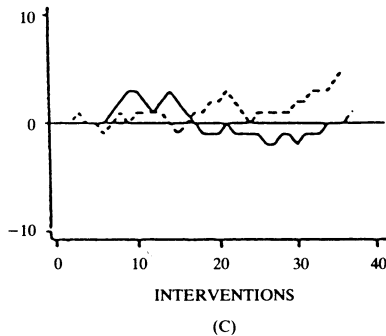
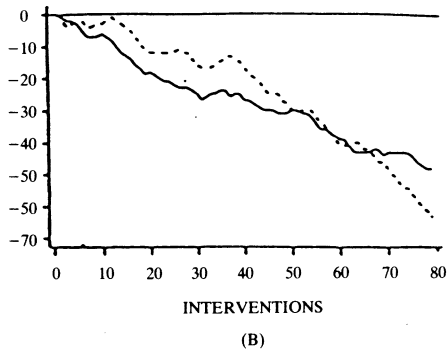
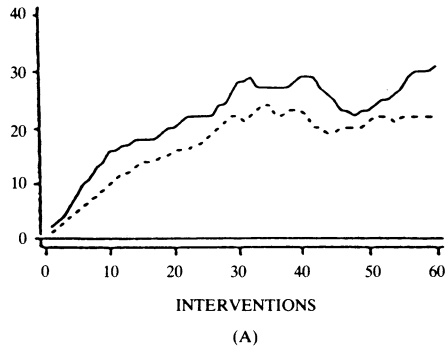
negative escalation pattern for the verbal behavior more closely resembles that of the MD couples, while the ND couples' negative escalation appears to cool down after lag 4.

With respect to the *nonverbal behavior* (Figure 1b), all three of the groups evidence a certain degree of positive escalation. Yet, whereas the sequence for the ED and MD couples stops after four lags, that of the ND couples is likely to last much longer. Similarly, there is a tendency in the three groups to negatively escalate, but the ND and ED couples manage to break off the escalation process after a few exchanges, while the MD couples not only start from a higher base rate but also show a much longer negative pattern. Finally, with respect to the conflict neutralization sequence, the ED couples' interaction resembles that of the ND couples for the first five lags, with both groups starting at a low negative base rate and entering into a sequence of alternating neutral and negative responses of increasing probability. However, while the ND couples' sequence stops after five lags, the one for the ED couples continues until lag 8, thereby exceeding the conditional probability levels of the MD couples. The latter group also reaches a sequence length of 8, but starts from a higher negative base rate and a lower conditional probability for a neutral response at lag 2. In other words, the ED couples do not emit as many negative nonverbal cues as the MD couples, but if they do they are more likely to engage in a sequence where one partner attempts to neutralize the other one's negative behavior. This seems to be consistent with the hypothesis that ED patients and their spouses preferably use the avoidance strategy to deal with their marital conflicts.

This finding is further substantiated by the results obtained by means of the *cumulative response curve* technique. In order to analyze these curves, the interaction profiles of the 63 couples participating in the study were classified using a modified version of the classification of interaction patterns proposed by Hooley & Hahlweg (1986): (a) a parallel increase of the response curves of

FIGURE 2

Examples of interaction types resulting from cumulative response graphs:
(A) positive interaction; (B) negative interaction; (C) neutral interaction;
(D) asymmetric negative interaction; (E) asymmetric positive interaction.



both partners (above the zero value on the ordinate) was classified as a positive interaction pattern; (b) a parallel decrease of the spouses' response curves (below the zero value) was considered as a negative interaction pattern; (c) when the curves of the two spouses remain parallel with the abscissa throughout the discussion, the interaction pattern was considered as neutral; and (d) the pattern was classified as asymmetric when the spouses' curves were not parallel. With regard to the last type, a further distinction was made between the cases in which one partner's interventions were increasingly negative, and the other's neutral or positive (asymmetrical negative), and those where one partner is positive and the other neutral (asymmetric positive). In the former case the asymmetry suggests that one partner counteracts the other's tendency to negatively escalate, while in the latter there is no negative escalation to react to. Examples of the five interaction types are shown in Figure 2.

For the purpose of this study, the classification of the couples' interaction curves was done by two untrained judges, who were blind to the experimental conditions. The correspondence between the judges' classifications was 92 percent (Cohen's kappa = .90) which attests to the ease with which the different patterns can be visually recognized. The results of the classification are shown in Table 4.

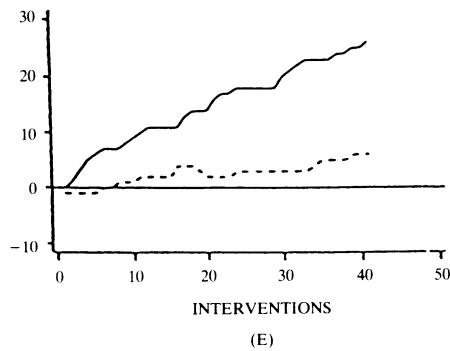
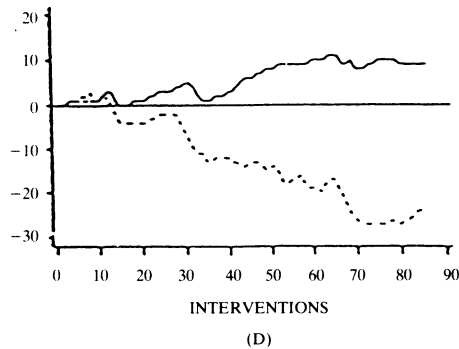
As this Table indicates, there is a marked difference between the classifications for each group. This is substantiated by the highly significant chi-square test for the data ($\chi^2(8) = 28.941, p < .001$). For ND couples, the most typical pattern is that of positive interaction, which is displayed by more than half

TABLE 4
Classification of couples according to their interaction patterns during conflict
(percentages in parentheses)

Patterns	ED (N = 21)	ND (N = 21)	MD (N = 21)	Total (N = 63)
Positive	3 (14)	11 (52)	3 (14)	17 (27)
Negative	4 (19)	1 (5)	12 (57)	17 (27)
Neutral	4 (19)	1 (5)	4 (19)	9 (14)
Asym. negative	8 (38)	4 (19)	2 (10)	14 (22)
Asym. positive	2 (10)	4 (19)	0 (0)	6 (10)

(52%) of the couples in the sample. The negative or neutral interaction patterns, on the other hand, are very rare (less than 5%). For MD couples, the negative interaction pattern is the most typical one: 12 out of 21 couples, or nearly 60 percent, demonstrate this type of interaction. In contrast, the asymmetric negative and asymmetric positive patterns are rather atypical (less than 10%). Finally, for ED couples, the most frequently observed pattern is that of asymmetric negative interaction. Of the 21 couples in the sample, 8 (or 38%) are placed into this category, which is almost double the percentage obtained for the total group. In other words, an ED couple is almost twice as likely to show conflict avoidance than a couple drawn at random from the total sample. We may add that in half of the cases, it is the patient who tries to avoid the negative escalation, while in the other half it is the husband. So there seems to be no systematic gender effect as to who engages in the conflict and who tries to avoid it.

In summary, the above data demonstrate that there is indeed a strong relationship between the couples' clinical characteristics and their interaction

FIGURE 2 (continued)

patterns during conflict. To the extent that we may consider these patterns as bearing witness to the integrative, distributive and avoidance strategy, these findings support our fourth hypothesis.

Discussion

Inefficient conflict management strategies are assumed to play an important role in the onset or the perpetuation of eating disorders in married women. More specifically, it is believed that ED patients and/or their husbands show a tendency to avoid open conflicts, which prevents them from finding genuine solutions for their problems, and in the long run inhibits the development of their marital intimacy (Van den Broucke & Vandereycken, 1988, 1989). In this study, we have tried to substantiate these clinical impressions by systematically investigating three core aspects of conflict management in these couples: their conflict topics, their conflict structure and their interaction processes during conflicts.

With respect to the first aspect, it was hypothesized that ED patients and their husbands would not only report a greater number of *conflict topics* than ND couples, but also a different kind of conflict topics, which would resemble those of MD couples. These assumptions were largely confirmed by the data, for in addition to a highly significant quantitative difference in conflict-producing topics reported by the three groups, we also found a significant qualitative difference: in contrast to ND couples, conflicts between ED and MD spouses were often concerned with affectively charged topics, such as their sexual relationship or the partner's temperament, whereas the arguments of ND couples were generally about more trivial issues. The former couples not only have a greater range of topics that may include conflict, but given their higher degree of emotional involvement with these topics, their conflicts are also likely to be more aversive than in ND couples. In the light of these findings, it is conceivable that the ED couples try to prevent these aversive feelings by avoiding marital conflicts altogether. From an escape conditioning point of view, it could be argued that if such an avoidance is done successfully, the use of the conflict avoidance strategy is negatively reinforced. For the MD group, on the other hand, it is possible that the number of conflict-producing topics is so high, that the avoidance strategy cannot be applied successfully, and hence is less reinforced.

In this respect, the above findings correspond with the findings concerning the couples' *interaction processes* during their conflicts. While we assumed that ED couples' communication patterns would reflect the use of a conflict avoidance strategy, as opposed to an integrative and distributive strategy by the ND and MD couples, respectively, our assumption was largely confirmed by the results of our analyses, which in this case were twofold. On a micro-analytic level, K-gram analyses of the interaction data revealed that, with regard to the verbal communication, the generalized interaction patterns of ED couples mostly resemble those of ND couples, except for the fact that their negative escalation sequences tend to last longer. With respect to the nonverbal communication, on the other hand, ED couples demonstrate less positive escalation than ND couples, and less negative escalation than MD ones, while their tendency to neutralize conflicts is more apparent than in both the other groups. On a more holistic level, it was shown that, while a fairly accurate classification of the couples' group membership could be made on the basis of cumulative response patterns of their conflict discussions, the pattern most frequently encountered among the ED couples was the asymmetric negative one, with one partner acting increasingly negative and the other counteracting the escalation. In contrast, the ND couples more often displayed a symmetric positive interaction pattern, and the MD couples a symmetric negative one.

These findings, which are obtained by means of systematic observation, are in keeping with most of the impressionistic observations reported in the clinical literature, as well as with the results of the questionnaire study by Van Buren & Williamson (1988) mentioned in the introduction. They also

bear important implications for the couples' marital functioning and for the spouses' psychological well-being. Indeed, while conflict avoidance at some points seems a pragmatically benign strategy to maintain positive affect in a relationship (Fitzpatrick, 1988), it also prevents the spouses from finding a suitable solution for the problem at hand, and perhaps more importantly, it precludes the possibility of learning from the situation. From the information theoretical point of view, one could indeed say that avoidance conveys little information to the recipient (Rausch et al., 1974). In this regard, conflict avoidance suggests a static quality to the exchange between the partners.

This brings us to the final conflict parameter considered in this study, namely the *structure* which underlies these couples' conflicts. With regard to this aspect, we did not find a confirmation for our hypothesis that the conflicts of the couples with an ED patient entail an asymmetrical dominance structure. On the contrary: the ED couples' conflict discussions actually reflected a highly egalitarian structure. As such, the data apparently contradict the strategic therapists' view that the occurrence of an eating disorder reflects a covert struggle for power in the relationship. Moreover, given the findings with regard to the conflict avoidance tendency of the ED couples, it is likely that the symmetry of their interactions is of a submissive rather than a competitive or neutralized type. Indeed, symmetrical interactions of a submissive type are characterized by mutual coalescence and surrender, rather than escalation and fighting (Bateson & Jackson, 1968). Unfortunately, however, our analyses of the dominance structure did not discriminate between subtypes of symmetry.

An alternative explanation for the unexpected symmetry of ED couples' communication is that this actually reflects the success of the patients' attempts at restoring an unequal power balance in their relationship by way of developing the eating disorder. To test for this possibility, however, it is necessary to investigate the changes in the couples' dominance structures over the course of the patients' illness.

Awaiting such research, it seems reasonable to refrain from drawing definite conclusions about the structural components underlying the conflicts between these patients and their partners, and instead to focus on the conflict topics and processes. We may conclude, then, that ED patients and their husbands show a greater tendency than ND couples to avoid conflicts rather than to confront them, and that this tendency may limit their capability to deal effectively with the problems that are imposed on them by internal or external sources.

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Appendix

The coefficient of cross-covariability T was computed using the equation:

$$T(It:Jt-1) = H(It) + H(Jt-1) - H(ItJt-1)$$

where $H(It)$ and $H(Jt-1)$ are the individual variabilities of partner i's behavior at time t and partner j's behavior at time t-1, respectively, and are given by

$$H(It) = - \sum_{k=1}^m p(ki) \log_2 p(ki)$$

with m = the total number of behaviors in the person's behavioral repertoire, $p(ki)$ = the probability of person i emitting behavior k, It = the state of person i at a given time t;

and $H(ItJt-1)$ refers to the variability of the behavioral sequences of partner i and partner j, and is computed as:

$$H(ItJt-1) = - \sum_{k=1}^m \sum_{l=1}^n p(kilj) \log_2 p(kilj)$$