Gender Differences in Competition and Dominance during Married-Couples Group Therapy

ANNE K. McCARRICK
RONALD W. MANDERSCHEID
SAM SILBERGELD
Mental Health Study Center,
National Institute of Mental Health

Previous research on same-sex interaction has documented competitive patterns for males, but not for females. By contrast, some studies characterize cross-sex interaction as competitive; other studies, as noncompetitive. To extend research on the processes of competition and dominance in same- and cross-sex interaction, the present study examines verbal interaction sequences that occurred during two brief psychotherapy groups conducted for the same set of five married couples. All interaction sequences have been classified according to the Ericson-Rogers Relational Coding System, and patterns analyzed by means of a log-linear statistical procedure. For same-sex interaction, findings document more indiscriminant competition between males than between females. These results extend previous findings. For cross-sex interaction, a complex pattern of competition and dominance is observed. Although females compete with males under certain conditions, males do not compete with females. However, males apparently interrupt females freely, thus suggesting that males assume a dominant position. Females tend to "interrupt back," an indication that male dominance is not acceptable. However, females are also more submissive toward husbands than toward other males. The question remains whether these patterns are applicable to a more general population.

INTRODUCTION

Competitiveness and dominance are stereotypical male behaviors, while expected behaviors for females include accommodation and passivity (Brenner and Vinacke, 1979; Broverman et al., 1972; Megargee, 1969). Despite rather general agreement as to these sex-role stereotypes, gender differences in actual, rather than expected, assertive behaviors are less clear (Maccoby and Jacklin, 1974). The present paper attempts to describe and clarify some of these behavioral differences through an analysis of control attempts by males and females who participated in group psychotherapy for married couples. This setting is an excellent context in which to observe competition and dominance, since it includes preestablished relationships between spouses, as well as nascent relationships between other group members.

Competition is usually defined as the acts of two or more persons who are striving for the same position or object. In the present context, the term is used in the sense of striving for a position of dominance. Competition between the sexes has been investigated in various contexts: experimental games (Moely et al., 1979; Scheel, 1979; Hill, 1978; Meeker and Weitzel-O'Neill, 1977); physical tasks (Ober, 1978); and small groups (Aries, 1976). Overall, these studies suggest that men are generally more competitive with other men than women are with other women. In cross-gender interaction, a clear pattern does not emerge from the literature.

Gender differences in dominance behavior have also been the subject of recent research. To dominate is to rule or control through superior power or influence. Like competitiveness, dominance is considered more appropriate for men than for women (Bem, 1974; Broverman et al., 1972; Megargee, 1969), and, in general, men appear to dominate women in mixed-sex in-

teraction (Adams and Landers, 1978). However, Maccoby and Jacklin (1974) point out that men are not necessarily more dominant in their marital relationships; hierarchical patterns between men and women in close relationships might be quite different than those between strangers.

Recently, a great deal of interest has focused on dominance patterns during casual conversation between men and women (Natale et al., 1979; Octigan and Niederman, 1979; West, 1979; Fishman, 1978; Zimmerman and West, 1975). As Kramer et al. (1978) note, casual speech may be a useful unobtrusive measure of sexual equality. Consensus exists that men attempt to dominate women in naturally occurring conversations by interrupting women far more often than women interrupt men. Women's responses to the interruptions have been studied less frequently, and may consist of active "interrupting back" or passive silence. In other words, women may or may not respond in a submissive manner.

The relationship between competition and dominance is rather complex. Wish and Kaplan (1977) have investigated perceived dimensions of interpersonal communication with multidimensional scaling procedures. These researchers find several dimensions, including one labeled Competition vs. Cooperation and another labeled Dominance vs. Equality. Wish and Kaplan report that Dominance is strongly related to the role relationship of the interactants, while Competition is related to the context of the interaction. Thus, competition can be seen to occur when the situation is conflictual, and dominance is not assured by role relationships.

Although nonverbal displays of dominance and submission may seem trivial when considered individually, Goffman (1979) notes that their total effect is enormous. This point applies as well to verbal interaction. Verbal interaction is a mechanism by which hierarchies are established, affirmed, and maintained. It is this verbal exchange of messages reflecting actual or perceived definitions of relationship control, i.e., who's in charge, that is the focus of this paper.

To summarize, previous literature and research on same-sex interaction lead one to expect a pattern of competition between men but not between women (Moely et al., 1979; Ober, 1978; Meeker and Weitzel-O'Neill, 1977; Aries, 1976; Maccoby and Jacklin, 1974; Brenner and Vinacke, 1979). In cross-sex interaction, role relationship may be an important qualifying variable. If competition is likely to occur only when dominance is not assured by a culturally-prescribed role relationship (Wish and Kaplan, 1977), one would theoretically expect men not to compete with women but to dominate without competition, since American culture generally awards greater power to males (Adams and Landers, 1978). Research on the behavior of males toward females supports this expectation (Octigan and Niederman, 1979; West, 1979; Fishman, 1978). Some evidence exists, however, that women compete with men in cross-sex interaction (Scheel, 1979; Ober, 1978). This difference between males and females may be due to the fact that males are more likely to hold traditional cultural views about cross-sex dominance (Thornton and Freedman, 1979; Komarovsky, 1974). Thus, one would expect females to be more competitive than males in cross-sex interaction.

METHOD

Description of Subjects and Group

For the past decade, the Biopsychosocial Research Section, Mental Health Study Center, National Institute of Mental Health, has developed innovations and conducted assessments of a 15-session group therapy model of married-couple group psychotherapy. Participants in this program are married-couple volunteers who wish to improve their marriages with respect to general problems of nonverbal communication, control, sexual satisfaction, self-esteem, and special problems idiosyncratic to the couple. Subjects are directly or indirectly referred from church congregations or a local university. All subjects are screened separately and as couples by means of psychiatric interviews. The program avoids subjects in crisis, but expects subjects with marital

difficulties. In the present situation, the volunteers were ministers and their wives who responded upon hearing the program of this Section described to an assembly of clergy. The therapy is eclectic and includes focus on the here and now, a dynamic insight approach, elements of psychodrama when appropriate, etc. Assertiveness, along with a flair for flexible negotiation, is encouraged but not emphasized, whereas passivity and aggressiveness are discouraged.

The group consisted of five ministers and their wives. Each set of spouses had two or more children. Ages ranged from 27 to 53 years with a mean of 37 years; mean length of marriage was 14 years with a range of 5 to 24 years; and the mean educational level was six years beyond high school. Each group member had earned an undergraduate degree. The five husbands and two of the wives were professionals. All group members were white. Generally, the couples participated for two reasons. First, all spouses wished to improve the quality of their marital relationships. Second, husbands wished to become more effective within their occupational role, particularly with respect to interpersonal counseling of congregation members.

Group members participated in 15 sessions of brief group psychotherapy (Group I), and then met two years later for an additional 15 sessions (Group II). (Although sequential groups for the same participants are not typical in the research program, members of Group I requested collectively that Group II be conducted, since they felt that Group I had been highly beneficial.) In both series, Sessions 3, 8, and 13 lasted approximately eight hours; the remaining sessions were two hours in duration. Both groups were led by the same two experienced therapists, a male psychiatrist and a female psychiatric nurse.

For both groups, the therapeutic procedure was similar. Sessions 1 and 2 were essentially laissez-faire and designed to have minimal therapeutic activity. In Sessions 3–12, the therapists focused systematically and somewhat sequentially upon each marital partner, with particular attention to behavior, affect, and coping

style. Discussion content varied from session to session. For example, the techniques of the therapist involved active listening, offering alternative problem resolution strategies to deal with conflicts, and numerous role-playing situations designed to promote change toward more effective dyadic behavior. Throughout this process, verbal comments from all group members were selectively utilized. The first hour of Session 13 was filmed on videotape. The remainder of this session was used to replay and discuss the resulting film. Participants' feelings concerning their nonverbal and verbal performances were examined. Session 14 analyzed the previous separation anxiety experienced by participants and the relationship between these experiences and the end of the group. In Session 15, therapists and members provided a spontaneous appraisal of each couple's progress during the group.

The clinical endeavor was part of a broader research effort to develop both new methods of precrisis therapeutic intervention and quantitative techniques for evaluation of therapy. The current study is based on an analysis of audio recordings of group sessions. Specifically, it is part of an effort to evaluate the impact of therapy on dominance and submission in relationships. Changes in the couples' relationship control patterns are described elsewhere (McCarrick et al., 1981).

Procedure

Data consisted of audio recordings of all two-hour sessions in both series and the middle two hours of the eight-hour sessions. With the exception of interactions between members and therapists, all interactions between spouses and between group members other than spouses were classified sequentially according to the coding protocol of Ericson and Rogers (1973). The Ericson-Rogers Relational Coding System derives from the work of Mark (1971), Watzlawick et al., (1967), and Bateson (1958). In Ericson and Rogers' schema, a coding unit is defined as each verbal intervention of each member in a dialogue and may consist of a single utterance or a flow of continued utter-

ances. Each coding unit is viewed as being a response to the message that preceded it, and, in this sense, is a "definer" of that transaction. The classification of a coding unit is based on the grammatical form and the response style of the verbalization relative to the statement that came before it. In the present analysis, each coding unit has been given one code. Although multiple codes can be assigned to a given coding unit in the Ericson-Rogers system (e.g., when a person answers a question and then, without interruption, asks a question), the coding appropriate to the final portion of the verbal intervention has been used when changes occurred. Thus, each "turn" by each member in a dialogue was assigned a single three-digit code. Figure 1 lists the coding categories and definitions from the Ericson-Rogers coding system. A complete description of the coding system, together with many illustrations, may be found in the appendix of Rogers' dissertation (1973), which reports an average interrater reliability of +.93 for

Figure 1. Coding Categories and Definitions for the Ericson-Rogers Coding System

A. *Grammatical Form (2nd digit)*
   1. *Assertion*—any completed referential statement.
   2. *Question*—any speech with an interrogative form.
   3. *Talkover*—a message which interrupts the other's message.
   4. *Noncomplete*—an utterance that is not complete.
   5. *Other*—unclassifiable as to form.

B. *Response Style (3rd digit)*
   1. *Support*—the giving or seeking of agreement, assistance, and approval.
   2. *Nonsupport*—refers to disagreement, rejection, and challenge.
   3. *Extension*—a continuation of the previous message.
   4. *Answer*—a definite substantive response to a question.
   5. *Instruction*—a regulative response in the form of a suggestion.
   6. *Order*—a regulative response in the form of an unqualified demand.
   7. *Disconfirmation*—a statement that ignores or bypasses the request of the other person.
   8. *Topic Change*—a response that breaks continuity with the previous message in an appropriate manner.
   9. *Initiation*—a statement which begins the interaction.
   0. *Other*—unclassified as to style.

Source: Rogers (1973).

grammatical form and +.91 for response style.

The coding units are subsequently assigned a control direction based on whether the movement is toward dominance of the exchange (one-up), toward being controlled or accepting dominance (one-down), or toward neutralizing control (one-across). Examples of one-up transactions are orders, talkovers, nonsupport responses, and questions demanding an answer. One-down transactions are support responses and noncomplete phrases that invite others to take control. One-across transactions, those which carry the interaction along with minimal effort to control, are extensions of assertions and noncomplete phrases. Figure 2 shows the control direction of all possible combinations of grammatical form and response style. Note that all initiation messages are one-up, unless they are noncomplete.

Analysis

Log-linear analysis, a method of studying the structure of multidimensional contingency tables, was used in this investigation because of its utility for categorical sequential data. Bishop et al. (1975) provide a mathematical treatment of this procedure; Reynolds (1977) offers a less technical exposition. The interested reader is referred to these texts. Computer program BMDP3F from the Biomedical Data Series (Dixon and Brown, 1978) was employed for all analyses.

Essentially, in log-linear analysis, estimates are made of the effects of row, column, and layer variables on the logarithms of the cell frequencies in a contingency table. For each cell, the natural logarithm (ln) of the frequency equals the sum of the mean and all possible effects. In program BMDP3F, tests of marginal and partial association, may be used to determine whether various effects are necessary, questionable, or unnecessary to fit a model to the table being analyzed. Models containing the necessary effects and various combinations of the questionable effects are then tested for goodness-of-fit, using the magnitude of the Likelihood Ratio Chi-square ($LR\chi^2$) as the criterion.

Figure 2. Message Type and Control Direction

Grammatical Form		Support 1	Non-support 2	Exten-sion 3	Answer 4	Instruc-tion 5	Order 6	Discon-firma-tion 7	Topic Change 8	Initia-tion 9	Other 0
						Response Style					
Assertion	1	↓	↑	→	↑	↑	↑	↑	↑	↑	→
Question	2	↓	↑	↓	↑	↑	↑	↑	↑	↑	↓
Talkover	3	↓	↑	↑	↑	↑	↑	↑	↑	↑	↓
Noncomplete	4	↓	↑	→	↓	↓	↓	↓	↓	→	→
Other	5	↓	↑	→	↑	↑	↑	↑	↑	↑	→

↑ = one-up (move toward dominance)
↓ = one-down (move toward submission)
→ = neutralizing move
Source: Rogers (1973).

In contrast to the Pearson Chi-square, the $LR\chi^2$ is additive under partitioning; therefore, the improvement in fit of one model over another can be assessed statistically by comparing the difference in $LR\chi^2$'s, with the difference in the number of parameters fitted as the degrees of freedom. Bishop et al. (1975:332) point out, however, that the decision about which effects are to be included should be based on substantive concerns and interpretability, as well as statistical significance.

Variables and Operational Measures

The variables employed in the present analysis are:

(a) group (G): first set of 15 sessions (I), and second set of 15 sessions (II).

(b) a variable (I) representing various combinations of interactants: (1) message by a male, response by his wife; (2) message by a male, response by a female other than wife; (3) message by a male, response by a male; (4) message by a female, response by her husband; (5) message by a female, response by a male other than husband; and (6) message by a female, response by a female.

(c) person: originator (O) and respondent (S).

(d) control direction of message (M) and response (R): one-up (↑); one-down (↓); and one-across (→).

With respect to "person," note that when data are disaggregated for the by-person analyses, one can analyze data for the person as originator or the person as respondent.

In terms of control direction of message and response, four patterns have been defined operationally. The four patterns are as follows: (1) attempting dominance: one-up response to any type of message; (2) competing only when challenged (symmetry): one-up response to one-up message, one-down response to one-down message, and one-across response to one-across message; (3) attempting dominance only when not challenged (complementarity): one-down response to one-up message, one-up response to one-down message, and one-up response to one-across message; and (4) failure to compete: one-down response to any type of message. It is critical to note that a pattern is defined in terms of the manner in which one responds to a series of messages, rather than on the basis of response to a single message. The rationale for these patterns is based upon the works of McCarrick et al. (1981) and Watzlawick et al. (1967). The four patterns can be partially ordered in terms of degree of competitiveness displayed. Thus, attempting dominance is an extreme form of competition, whereas failure to compete is the polar opposite. Attempting dominance only when not challenged and competing only when challenged both reflect an intermediate level of competitiveness. It should also be noted that within the latter two patterns, a one-across response is considered less competitive than a one-up response, but more competitive than a one-down response.

RESULTS

Table 1 shows the tests of fit for the models chosen by the screening procedure discussed earlier. Same-sex, cross-sex, and spousal and nonspousal interactions are contrasted in turn.

Same-Sex Interaction

Since the literature has devoted most attention to the topic of same-sex interaction, the first analysis examines patterns in this context. Table 2 shows selected parameter estimates for a model based upon variables G, I, M, and R. In this model, variable I defines a contrast between women speaking to women and men speaking to men. The best fitting model (#1) is [(GI) (GR) (IMR)] (LRχ^2 (14) = 10.78, p = 0.70).

The single variable effects show that there are more interaction sequences in Group I compared to Group II (effect (G)), more sequences between men than between women (effect (I)), and that one-up is a more common control direction for both message and response (effects (M) and (R)). Effect (GI) shows that male-to-male dialogues are more common in Group I than in Group II; effect (GR), that a one-up response is less apt to occur in Group II than in Group I; and effect (MR), that a one-up response is likely and a neutral response unlikely following a one-up message.

The effects of most interest, however, are (IR) and (IMR). From effect (IR), one can note that males are much more likely to respond to other males with a one-up than are females to other females. Effect (IMR) shows that women are likely to give one-down responses to one-down messages, and are unlikely to give one-up responses to such messages. By contrast, men are likely to exhibit the opposite pattern. When considered together, effects (IR) and (IMR) point to a male pattern of attempting dominance and a female pattern of competing only when challenged. Generally, these patterns are consistent with expectations from previous research.

Cross-Sex Interaction

A parallel analysis was done on cross-sex data (model #2). For this analysis, interspousal interactions were excluded

Table 1. Tests of Fit for Selected Models

Interactants	#	Model	Test of Fit	
			LRχ^2	p
Same-Sex	1	(GI)(GR)(IMR)[a]	14	10.78	0.70
Cross-Sex	2	(GR)(RI)	24	28.60	0.24
		(GR)(RI)(GI)	22	24.50	0.32
Same- and Cross-Sex	3	(GI)(GM)(GR)(MR)	52	58.36	0.25
		(GI)(GM)(GR)(MR)(IR)[a]	46	47.65	0.41
Men Responding to Wives vs. Other Women	4	(GI)(MR)	24	24.83	0.42
		(GI)(MR)(GM)	22	17.67	0.73
Women Responding to Husbands vs. Other Men	5	(GI)(GR)(IR)(MR)[a]	20	9.22	0.98
Same-Sex (Originator)[b]	6	(MR)(GR)(OR)(GO)	132	118.99	0.78
		(MR)(RGO)	114	90.47	0.95
Same-Sex (Respondent)[b]	7	(GS)(SR)(MR)	134	115.78	0.87
		(GS)(SR)(MR)(GR)	132	109.15	0.93
Cross-Sex (Originator)[b]	8	(GO)(OM)(MR)[a]	134	133.86	0.49
		(GO)(OM)(MR)(GR)	132	126.86	0.61
		(GO)(OM)(MR)(OR)	116	106.26	0.73
		(GO)(OM)(MR)(OR)(GR)	114	99.71	0.83

Note: Variables included in the models are group (G), interactants (I), originator (O), respondent (S), control direction of message (M), and control direction of response (R).

[a] Model employed to estimate parameters.

[b] When data are disaggregated for the by-person analyses, one can analyze data for the person as originator or the person as respondent.

Table 2. Parameter Estimates for Same-Sex Interaction: Model [(GI)(GR)(IMR)]

Effect			Estimates		
(G)	Group		I 0.17***	II −0.17***	
(I)	Interactants		Females Responding to Females −0.43***	Males Responding to Males 0.43***	
(M)	Control Direction of Message		↑ 1.20***	↓ −0.37***	→ −0.82***
(R)	Control Direction of Response		↑ 0.55***	↓ −0.26**	→ −0.30***

Interactants (I)

(GI)	Group (G)		Females Responding to Females	Males Responding to Males
		I	−0.16***	0.16***
		II	0.16***	−0.16***

| (GR) | Group (G) | | Control Direction of Response (R) | | |
			↑	↓	→
		I	0.13*	−0.03	−0.09
		II	−0.13*	0.03	0.09

| (MR) | Control Direction of Message (M) | | Control Direction of Response (R) | | |
			↑	↓	→
		↑	0.30***	0.07	−0.37***
		↓	−0.22	0.09	0.13
		→	−0.08	−0.16	0.24

| (IM) | Interactants (I) | Control Direction of Message (M) | | |
		↑	↓	→
	Females Responding to Females	−0.03	0.01	0.02
	Males Responding to Males	0.03	−0.01	−0.02

| (IR) | Interactants (I) | Control Direction of Response (R) | | |
		↑	↓	→
	Females Responding to Females	−0.18*	0.09	0.09
	Males Responding to Males	0.18*	−0.09	−0.09

| (IMR) | Interactants (I) | Control Directing of Message (M) | Control Direction of Response (R) | | |
			↑	↓	→
	Females Responding to Females	↑	0.12	−0.14	0.02
		↓	−0.26*	0.38**	−0.12
		→	0.14	−0.24	0.10
	Males Responding to Males	↑	−0.12	0.14	−0.02
		↓	0.26*	−0.38**	0.12
		→	−0.14	0.24	−0.10

Note: See Table 1 for definitions of variables and fit of model.
* =. $p < .05$;   ** = $p < .01$;   *** = $p < .001$.

from the data set. Results do not show significant differences between males and females in either message or response control direction. However, when cross-sex and same-sex interactions are compared, interesting results emerge.

Table 3 shows results from the model (#3) based upon this comparison. The variables included in this model are the same as those used for the model displayed in Table 2, with the exception that variable I defines a contrast among women speaking to men, women speaking to women, men speaking to women, and men speaking to men. Note that the data analyzed for Table 2 are a subset of the data presented in Table 3; interspousal interactions have been excluded. Overall, model [(GI) (GM) (GR) (MR) (IR)] (LRχ^2 (46) = 47.65, p = 0.41) fits the data only slightly better than does model [(GI) (GM) (GR) (MR)] (LRχ^2 (52) = 58.36, p = 0.25),

Table 3. Parameter Estimates[a] for Same-Sex and Cross-Sex Interaction: Model [(GI)(GM)(GR)(MR)(IR)]

Effect		Estimates			
(G)	Group		I 0.02	II -0.02	
(I)	Interactants	Males Responding to Females[a]	Females Responding to Females	Females Responding to Males[a]	Males Responding to Males
		-0.05	-0.37***	-0.11*	0.53***
(M)	Control Direction of Message	↑ 1.15***	↓ -0.42***	→ -0.73***	
(R)	Control Direction of Response	↑ 0.61***	↓ -0.39***	→ -0.22***	

Interactants (I)

Effect			Males Responding to Females[a]	Females Responding to Females	Females Responding to Males[a]	Males Responding to Males
(GI)	Group (G)	I	-0.05	-0.08	-0.11*	0.24***
		II	0.05	0.08	0.11*	-0.24***

Control Direction of Message (M)

			↑	↓	→
(GM)	Group (G)	I	0.11*	-0.02	-0.09
		II	-0.11*	0.02	0.09

Control Direction of Response (R)

			↑	↓	→
(GR)	Group (G)	I	0.12*	-0.03	-0.09
		II	-0.12*	0.03	0.09

Control Direction of Response (R)

			↑	↓	→
(MR)	Control Direction of Message (M)	↑	0.23***	0.17*	-0.40***
		↓	-0.08	-0.07	0.15
		→	-0.15	-0.10	0.25**

(IR)	Interactants (I)	Control Direction of Response (R)		
		↑	↓	→
	Males Responding to Females[a]	0.00	-0.02	0.01
	Females Responding to Females	-0.12	0.12	0.00
	Females Responding to Males[a]	0.02	-0.17*	0.15
	Males Responding to Males	0.10	0.07	-0.16*

Note: See Table 1 for definitions of variables and fit of model.

[a] Excludes interspousal interaction.

$* = p < .05$; $** = p < .01$; $*** = p < .001$.

since the difference is $LR\chi^2 (6) = 10.71, p < 0.10$. Thus, the former model is the one used because the added effect, (IR), is of substantive interest, although only moderately significant. One can note from Table 3 that parameter estimates for effects (G), (I), (M), (R), (GI), (GM), (MR), and (GR) are similar to the parallel estimates in Table 2. However, the estimates for effect (IR) show an interesting range of competitive behaviors. Males responding to males are the most competitive, with one-up responses most likely and one-across responses least likely. Females responding to males are next, with one-across responses likely and one-down un-

likely. The response of males to females does not exhibit a discernible pattern. Females are unlikely to offer other females one-up responses. These results again point to a pattern of competition between men which is not present between women, and, in addition, suggest a lesser degree of competition in cross-sex interaction. Women seem to be somewhat competitive with men, but the data do not support the reverse inference.

Interspousal Interaction

To examine potential differences between interspousal and other cross-sex interactions, two analyses were con-

ducted. The first compared verbal exchanges from wives to husbands with those from wives to other men. The resultant model (#4) does not show significant differences between the two sets of interactants for either messages or responses. The second analysis compared verbal exchanges from husbands to wives with those from husbands to other women. The best fitting model (#5) for the latter data is [(GI) (GR) (IR) (MR)] (LRχ^2 (20) = 9.22, p = 0.98). Table 4 displays parameter estimates for this model.

Estimates for effects (G), (M), (R), and (GR) are essentially the same as described in previous analyses. Effect (I) shows that females respond verbally to male group members other than husbands more frequently than to husbands, and effect (GI) shows that this difference is more marked in Group II. As in earlier models, effect (MR) shows that a neutral response is unlikely to follow a one-up message, but, in the present comparison, estimates for effect (MR) do not show the strong symmetrical responses to one-up messages noted in previous models. Effect (IR) shows that women are most apt to respond to their husbands with a one-down, but to respond to men other than husband with a neutral response. This difference seems to indicate a tendency for females to be more submissive toward their husbands than toward other males.

These analyses do not show a significant gender difference in the degree of change observed for competitive behavior from Group I to Group II. In models #1, 3, and 5 (note that models #2 and 4 did not show significant differences between interactants), effect (GR) shows that one-up responses are significantly less frequent in

Table 4. Parameter Estimates for Interspousal and Nonspousal Cross-Sex Interaction: Model [(GI)(GR)(IR)(MR)]

Effect			Estimates		
(G)	Group		I 0.11*	II −0.11*	
(I)	Interactants		Wives Response to Husbands −0.19***	Females Response to Males[a] 0.19***	
(M)	Control Direction Message		↑ 1.16***	↓ −0.45***	→ −0.71***
(R)	Control Direction of Response		↑ 0.68***	↓ −0.40***	→ −0.28**
			Interactants (I)		
			Wives Response to Husbands	Females Response to Males[a]	
(GI)	Group (G)	I II	0.16** −0.16**	−0.16** 0.16**	
			Control Direction of Response (R)		
(GR)	Group (G)	I II	↑ 0.18** −0.18**	↓ −0.03 0.03	→ −0.15 0.15
			Control Direction of Response (R)		
(MR)	Control Direction of Message (M)	↑ ↓ →	↑ 0.16 0.04 −0.20	↓ 0.19 −0.14 −0.05	→ −0.36** 0.10 0.25
			Control Direction of Response (R)		
(IR)	Interactants (I) Wives Responding to Husbands Females Responding to Males[a]		↑ 0.01 −0.01	↓ 0.18* −0.18*	→ −0.19* 0.19*

Note: See Table 1 for definitions of variables and fit of model.
[a] Excludes interspousal interaction.
* = $p < .05$; ** = $p < .01$; *** = $p < .001$.

Group II. However, effect (GIR), which represents statistical interaction between group, interactants, and control direction of response, does not achieve significance in these analyses.

By-Person Analyses

In order to examine whether the patterns described above are consistent across persons, the same analyses were repeated with person included as a separate variable. In the analysis of same-sex interaction based upon the originator of the exchange (model #6, results not shown), the findings indicate that two males have a greater tendency to elicit one-up responses by other males; the remaining individuals do not exhibit significant control-direction patterning. When the analysis of same-sex interaction is based upon person responding (model #7, results not shown), two additional males exhibit a tendency to offer other males one-up responses. Thus, the by-person analyses support the results of the by-group analyses. Males tend to compete with each other; females do not.

When the by-person analysis of non-spousal, cross-sex interaction is based upon the originator of the exchange, interesting results emerge. Table 5 shows parameter estimates for this analysis. The best fitting model (#8) is [(GO) (MR) (OM)] (LRχ^2 (134) = 133.86, p = 0.49). (A model including effect (GR) provides a significantly better fit to the data. However, when parameter estimates are calculated, effect (GR) has no significant cells.) Effects (O) and (GO) show variation in members' frequency of interaction and variation between Groups I and II. Effects (M) and (R) show the predominance of the one-up category in messages and responses, while effect (MR) shows that symmetrical responses to one-up and one-across messages are frequent and one-up responses to one-across messages are infrequent. Parameter estimates for effect (OM), the relationship between originator and the control direction of a message, show that two of the five women are most likely to conduct cross-sex exchanges with one-up messages, two other women are unlikely to do this. These re-

sults suggest that some women are highly competitive with men, while others are not. The only significant patterning of message control direction from men to women is the tendency of husband D to give one-down rather than neutral messages. The remaining men do not show significant patterning. These results clarify the by-group findings presented in Table 3.

When the by-person analysis of non-spousal, cross-sex interaction is based upon person responding, individuals do not differ significantly in terms of the control direction of messages received or in terms of the control direction of responses given. Thus, particular individuals are not targets for one-up messages by opposite-sex group members, nor are they more likely to offer one-up responses to such individuals. In the by-person analysis of interspousal interactions, significant differences have not been observed among participants in control direction of messages or responses to spouse. These negative findings are congruent with those from the by-group analysis.

Interruptions

The pattern of interruptions, a commonly used indicator of dominance (Ferguson, 1977), was examined by constructing a who-to-whom matrix for the "talkover" category of the Ericson-Rogers schema. The Ericson-Rogers "talkover" category corresponds to Ferguson's "simple interruption" when it is preceded by a statement coded as "noncomplete," and to Ferguson's "overlap" when it is preceded by any other type of statement. In the current data set, few talkovers were preceded by noncomplete statements, so most are equivalent to overlaps. It should be noted that Ferguson (1977) finds that the overlap category correlates with dominance. Interruptions tended to be more frequent in cross-sex interaction, except for the pattern exhibited by one pair of males.

Table 6 shows the pairs of group members who interrupt each other, the overall number of interruptions, and the number of times each respondent interjected an interruption into the initial exchange with

Table 5. Parameter Estimates for Nonspousal Cross-Sex Interaction by Originator: Model [(GO)(OM)(MR)]

Effect		Estimates									

(G) Group

I	II
0.01	−0.01

(O) Originator

Couple: Spouse:

	A Wife	A Husband	B Wife	B Husband	C Wife	C Husband	D Wife	D Husband	E Wife	E Husband
(O) Originator	0.21	−0.20	0.42**	−0.17	−0.07	0.21	−0.29	0.46***	−0.12	−0.44*
(M) Control Direction of Message				0.95***	−0.50***	−0.45***				
(R) Control Direction of Response				0.53***	−0.40***	−0.13				

Originator (O)

(GO) Group (G)

Couple: Spouse:

	A Wife	A Husband	B Wife	B Husband	C Wife	C Husband	D Wife	D Husband	E Wife	E Husband
I	0.48***	−0.69***	−0.20*	0.23	0.06	−0.17	0.13	0.41***	−0.26	−0.01
II	−0.48***	0.69***	0.20*	−0.23	−0.06	0.17	−0.13	−0.41***	0.26	0.01

(MR) Control Direction of Message

Control Direction of Response (R)

B	C	D
0.29***	−0.09	−0.19
0.12	−0.09	−0.04
−0.41***	0.13	0.23*

(OM) Originator (O)

Control Direction of Message (M)

	B	C	D
Wife A	0.47**	−0.36	−0.10
Husband A	0.04	−0.17	0.12
Wife B	0.03	0.10	−0.13
Husband B	0.01	−0.30	0.28
Wife C	0.36	−0.37	0.01
Husband C	−0.10	0.19	−0.08
Wife D	−0.57**	0.35	0.22
Husband D	0.11	0.49**	−0.60**
Wife E	−0.37*	0.06	0.31
Husband E	0.02	0.01	−0.02

Note: See Table 1 for definitions of variables and fit of model.
* = $p < .05$; ** = $p < .01$; *** = $p < .001$.

Table 6. Frequency of Interruptive Responses between Pairs of Group Members.

	Frequency of Interruptive Response	
Interactants	Overall	In First Exchange
Husband D Responding to Wife A	17	8
Wife A Responding to Husband D	19	1
Husband B Responding to Wife B	32	7
Wife B Responding to Husband B	36	13
Husband D Responding to Wife C	13	3
Wife C Responding to Husband D	9	1
Husband D Responding to Husband C	11	5
Husband C Responding to Husband D	8	0
Husband D Responding to Wife D	14	0
Wife D Responding to Husband D	9	1
Husband E Responding to Wife E	8	1
Wife E Responding to Husband E	14	6

Note: In every case, frequency of interruptive responses is measured for the person listed on the left. Husband D is the top ranked group member in terms of both the number of statements emitted and received.

the originator. In the instances in which group members who interrupt each other are husband and wife, the wives appear to start the chain of interruptions, while in other cross-sex interruptions the men seem to begin them. Of course, group size is too small to draw any definite conclusions. More specific analysis of the table shows that Wife A and Wife C are the two women most apt to give one-up messages to men other than husband (see Table 5), and that these two women are also targets for interruption by the most dominant male in the group, Husband D, when dominance is measured by either number of messages emitted or received.

DISCUSSION

A complex pattern of dominance and competition is suggested by these analyses. In same-sex interaction, men seem clearly more competitive than women. Men attempt to dominate each other verbally, while women respond to each other symmetrically, neither attempting nor allowing verbal domination. Thus, in same-sex interaction, women appear to respond more selectively than men. This selectivity may be due to females' greater sensitivity to the interpersonal context as a result of more accurate role taking capability, a characteristic frequently acquired by the less powerful (Karp and Yoels, 1979).

In cross-sex interaction, men do not compete with women, but some women compete with men. The women who compete do so only when they are the originators of the exchange. In earlier work, results suggested that the originator of the exchange was prone to assume the role of therapist (McCarrick, 1979). Thus, women may compete more freely with men when they enact a role in which dominance is associated with helpfulness. In other words, women may need the extra legitimacy of "playing therapist" to compete comfortably. Meeker and Weitzel-O'Neill (1977) suggest that situations occur in which competitive or dominant behavior is considered legitimate for women; perhaps this is one of them.

Wish and Kaplan (1977) theorize that competition occurs when dominance is not assured by role relationships. In the present group, men appear to view each other as equals and to struggle for dominance, but to also feel assured of dominance over women. Women, on the other hand, seem to view the male-female relationship differently, competing for dominance when it is safe to do so. An important point to note is that neither sex challenges females. These patterns imply agreement that males are dominant, although it is not necessarily agreed that male dominance is acceptable.

Male dominance is also clear in the analysis of interruptions. However, females do not appear to yield the floor or to become silent, as previous studies have

noted (Zimmerman and West, 1975), but instead to "interrupt the interrupter." The cross-sex patterns observed for interruptions seem to duplicate the results for relationship control, and again suggest that females do not necessarily accept male dominance. Men rarely interrupt each other, nor do women. Thus, interruptions seem to occur between two people in an unequal but contested relationship, at least in the present group.

Patterns reflecting dominance and competition are quite different when interaction between spouses is compared to other cross-sex interaction. Although female group members are generally more submissive toward their husbands than toward other men, two of the five women interrupt their husbands frequently, and a third woman "interrupts back" when her husband starts a chain of interruptions, even though she does not begin the chain. The two women who do not interrupt their husbands are extremely submissive toward their spouses in terms of relationship control, but are competitive with other men. These findings again suggest that interruptions seem to occur when the role relationship is unequal but contested.

Both men and women were less competitive in Group II, a change that could be interpreted in at least two ways. One possibility is that the need to compete diminished as group members became better acquainted. Another is that the decrease in competitive behavior was a direct result of the therapy, which was designed to improve relational skills. The duration of the two groups and the length of the interval between them render the latter interpretation more probable.

Patterns of dominance appear to be culture-bound (Adams and Landers, 1978). Since the group members are white, middle-class ministers and their wives, who married at a time when sex role expectations were quite different from the present, one would expect them to exhibit more traditional sex-role patterning than many other groups (Thune et al., 1980). The point of the present research has not been to generalize to the population as a whole but to understand patterns of competition and dominance in a cross-sex group by considering both the sender and

the receiver of verbal statements. The use of sequential data and analytic techniques that take the sender and recipient of messages into account permits a more comprehensive understanding of the process of relationship definition that is integral to any group context. While not representative of men and women in general, the present group offers an interesting complex of role relationships, since it is composed of married couples.

Numerous unresolved questions remain. One is whether the patterns reported here are characteristic of white middle-class Americans. Another is whether and how fast these patterns are changing. Women's attitudes toward the legitimacy of male dominance have changed, as have men's. But interaction patterns, the face-to-face encounters of the "micro-world," may not be changing as quickly.

REFERENCES

Adams, K. A., and A. D. Landers
    1978 "Sex differences in dominance behavior." Sex Roles 4:215–223.
Aries, E.
    1976 "Interaction patterns and themes of male, female, and mixed groups." Small Group Behavior 7:7–18.
Bateson, G.
    1958 Naven. Stanford: Stanford University Press.
Bem, S. L.
    1974 "The measurement of psychological androgyny." Journal of Consulting and Clinical Psychology 42:155–162.
Bishop, Y., S. Fienberg, and P. Holland
    1975 Discrete Multivariate Analysis. Cambridge, MA: MIT Press.
Brenner, O C., and W. E. Vinacke
    1979 "Accommodative and exploitative behavior of males versus females and managers versus nonmanagers as measured by the Test of Strategy." Social Psychology Quarterly 42:289–293.
Broverman, I. K., S. R. Vogel, D. M. Broverman, F. E. Clarkson, and P. S. Rosenkrantz
    1972 "Sex role stereotypes: A current appraisal." Journal of Social Issues 28:59–78.
Dixon, W. J., and M. B. Brown (eds.)
    1978 BMDP-77: Biomedical Computer Programs, P Series. Rev. ed. Los Angeles: University of California Press.
Ericson, P. M., and L. E. Rogers
    1973 "New procedures for analyzing relational communication." Family Process 12:245–268.
Ferguson, N.
    1977 "Simultaneous speech interruptions and

dominance." British Journal of Social and Clinical Psychology 16:295–302.

Fishman, P. M.
  1978 "Interaction: The work women do." Social Problems 25:397–406.

Goffman, E.
  1979 Gender Advertisements. Cambridge, MA: Harvard University Press.

Hill, M. L.
  1978 "The effects of competition and sex of competitor on the maze performance of seventh, eighth, and ninth grade children." Dissertation Abstracts International 38:3435B.

Karp, D. A., and W. C. Yoels
  1979 Symbols, Selves and Society: Understanding Interaction. New York: Harper and Row.

Komarovsky, M.
  1974 "Patterns of self-disclosure of male undergraduates." Journal of Marriage and the Family 36:677–686.

Kramer, C., B. Thorne, and N. Henley
  1978 "Perspectives on language and communication." Signs 3:638–651.

Maccoby, E. E., and C. N. Jacklin
  1974 The Psychology of Sex Differences. Stanford: Stanford University Press.

Mark, R. A.
  1971 "Coding communication at the relationship level." Journal of Communication 21:221–232.

McCarrick, A. K.
  1979 "Analysis of interaction sequences as a method of evaluating group marital psychotherapy." Dissertation Abstracts International 39:5751A.

McCarrick, A. K., R. W. Manderscheid, J. J. McIntyre, and S. Silbergeld
  1981 "Control patterns in dyadic systems: Marital group psychotherapy as change agent." American Journal of Family Therapy. In press.

Meeker, B. F., and P. A. Weitzel-O'Neill
  1977 "Sex roles and interpersonal behavior in task-oriented groups." American Sociological Review 42:91–105.

Megargee, E. I.
  1969 "Influence of sex roles on the manipulation of leadership." Journal of Applied Psychology 53:377–382.

Moely, B. E., K. Skarin, and S. Weil
  1979 "Sex differences in competition-

cooperation behavior of children at two age levels." Sex Roles 5:329–342.

Natale, M., J. Jaffee, and E. Entin
  1979 "Vocal interruptions in dyadic communication as a function of speech and social anxiety." Journal of Personality and Social Psychology 37:865–878.

Ober, G.
  1978 "A study of motor performance in sex-related competitive situations." Dissertation Abstracts International 38:5335A.

Octigan, M., and S. Niederman
  1979 "Male dominance in conversations." Frontiers 4:50–54.

Reynolds, H. T.
  1977 The Analysis of Cross-Classifications. New York: Free Press.

Rogers, L. E.
  1973 "Dyadic systems and transactional communication in a family context." Dissertation Abstracts International 33:6450A.

Scheel, D. J.
  1979 "The effect of sex-role orientation on the performance level of male and female college students in competitive and noncompetitive situations." Dissertation Abstracts International 39:3549A.

Thornton, A., and D. Freedman
  1979 "Changes in sex-role attitudes of women, 1962–1977: Evidence from a panel study." American Sociological Review 44:831–842.

Thune, E. S., R. W. Manderscheid, and S. Silbergeld
  1980 "Status or sex roles as determinants of interaction patterns in small, mixed-sex groups." Journal of Social Psychology 112:51–65.

Watzlawick, P., J. Beavin, and D. Jackson
  1967 Pragmatics of Human Communication. New York: Norton.

West, C.
  1979 "Against our will: Male interruptions of females in cross-sex conversation." Annals of the New York Academy of Sciences 327:81–97.

Wish, M., and S. J. Kaplan
  1977 "Toward an implicit theory of interpersonal communication." Sociometry 40:234–246.

Zimmerman, D. H., and C. West
  1975 "Sex roles, interruptions and silences in conversation." Pp. 105–129 in B. Thorne and N. Henley (eds.), Language and Sex: Difference and Dominance. Rowley, MA: Newbury House.