INTERRUPTIONS IN GROUP DISCUSSIONS: THE EFFECTS OF GENDER AND GROUP COMPOSITION*

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Conversations both reflect and maintain social inequalities. They import hierarchical structures from larger society and help perpetuate them by creating inequalities in the ability to accomplish interactional goals. In this study of speaker transitions in six-person, task-oriented experimental groups, we explore the well-known finding that men interrupt women more frequently than women interrupt men. We ask three questions about the structure of interruptions. Who attempts to interrupt whom and under what conditions? How does the affective character of interruptions vary across speakers and groups? What determines whether an interruption succeeds? We find that gender inequality in these task-oriented discussions is created by a mixture of attempts to use power and of differential success. In their interruptions, men discriminate by sex in attempts and in yielding to interruptions by others. Women interrupt and yield the floor to males and females equally. The sex composition of the group affects interruption patterns in complex ways. Men interrupt men with supportive comments in all-male groups, but these supportive interruptions drop as the number of women in the group increases. Supportive interruptions also succeed in gaining the floor more often in single-sex groups. Taken together, the results suggest a mixture of status and conflict models and reaffirm the importance of group composition in interaction.

Studies of group discussions reveal that status[1] has many effects on participation. High-status people are asked their opinions more often, talk more, receive more positive comments, are chosen as leader more frequently, are more likely to influence the groups' decisions, and in general dominate the conversation (see review in Ridgeway 1983, pp. 160–204). Status differentiation not only creates conversational dominance, but often legitimates it (Ridgeway and Berger 1986). Studies of conversations in dyads or families also frequently find status effects.

High-status actors talk more, are more successful at introducing topics, interrupt more, and receive more positive feedback from their listeners.

Conversation is an important domain for studying these status effects. Language use can tell us a great deal about the nature and extent of social inequality. It reflects the hierarchical social structure outside the group, while simultaneously providing the means through which that inequality is maintained. Differences by status in participation, conversational dominance, and adherence to turn-taking norms create differences in our ability to get our ideas across to others. In a family this may mean control over decision making; in a work setting it may determine performance and promotion.

In this study, we are interested in the status differences between males and females. There is extensive evidence that sex operates as a status characteristic in small groups research (e.g., Strodbeck, James, and Hawkins 1957), in the expectations states paradigm (e.g., Wagner, Ford, and Ford 1986; Lockheed 1985), and in studies of conversation (e.g., Kollock, Blumstein, and Schwartz 1985;

[1] Following Ridgeway (1983, p. 160), we define a member's status as "the degree of deference, esteem and power to influence others" he or she acquires.

West and Zimmerman 1977).[2] In group discussions, men talk more, more often assume a leadership position, receive more positive statements and fewer negative statements, are more likely to show nonverbal task and dominance cues, and so on.

The aspect of discussion in which we are interested is interruption.[3] An interruption occurs when one speaker disrupts the turn of another with a new utterance. Normally, conversation is organized so that one speaker talks at a time; speakers alternate in turns to prevent the conservation from becoming a monologue (Sacks, Schegloff, and Jefferson 1974). Speakers indicate when their turn is coming to an end with a variety of nonverbal and tonal cues. Typically, turn taking in conversations is achieved without substantial gaps or overlaps in speech (Dabbs, Ruback, and Evans 1985). As Kollock et al. (1985) note, a speaker's turn is his or her opportunity to accomplish interactional goals or to block others from accomplishing theirs. To interrupt a speaker—that is, to begin talking before the speaker's turn is finished and perhaps prevent him or her from completing the thought—is to prevent, at least temporarily, that speaker from accomplishing these interactional goals.

Since interruptions represent a clear violation of turn-taking norms that give one conversant greater access to others' attention, we are not surprised that their occurrence is linked to dominance, power, and status (see, e.g., Drass 1986; Eakins and Eakins 1978; Zimmerman and West 1975; West 1984). Earlier studies have found that men interrupt women, adults interrupt children, doctors interrupt patients (except when the doctor is a "lady"), the more powerful spouse interrupts the less powerful one, and those with masculine identities interrupt those with more feminine self-images. These violations of turn-taking norms clearly allow the powerful,

high-status speakers more access to important interpersonal resources (the "floor") at the expense of their lower-status partners. They may also serve to disorganize the speech and ideas of the interrupted (West 1979). As Kollock et al. (1985, p. 40) argued, attempting to interrupt is an excellent indicator of attempted conversational control; successful interruptions are a sensitive measure of actual dominance. Power is a human accomplishment, situated in everyday interaction; interruptions are one of the mechanisms that accomplish power in discussions.

Unfortunately, there are numerous problems in studying interruptions. First, they are relatively rare events. Most conversation is very well coordinated. In their classic study of naturally occurring conversations, Zimmerman and West (1975) found only 7 interruptions in 20 same-sex two-party conversations and 48 interruptions in 11 cross-sex conversations. Drass (1986) found 61 interruptions in 28 single-sex conversations—only slightly more than 2 interruptions per conversation. In a more recent study of couples, Kollock et al. (1985) found an average of 18.6 attempted interruptions per quarter hour of conversation, less than half of which were successful. Since interruptions are infrequent, we need long specimens of conversation or large samples of interactions to get stable estimates. The skewed distribution of transitions into normal versus interrupted categories also causes problems for statistical analyses.

A second problem arises from the fact that one must speak before one can be interrupted. Even in a two-person conversation, the two interactants are not equally at risk of being interrupted. The person who talks more is at risk more of the time. When more than two people participate in a discussion, the problem will be exaggerated since participation is known to be strongly skewed (Horvath 1965). The risk factor is especially important since we know that participation is status and power dependent (Strodbeck et al. 1957; Berger, Rosenholtz, and Zelditch 1980). An additional risk factor involves the success of interruption attempts. An interruption that succeeds in breaking off a speaker's turn may be more disruptive than one that the speaker manages to fend off. But an interruption must be attempted before it can succeed. Therefore, the issue of interruption attempts is somewhat different from that of interruption success.

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[2] Some studies raise questions about the universality of gender as a status characteristic in our culture. However, earlier analyses (Smith-Lovin et al. 1986) of University of South Carolina student data indicated that sex is a status characteristic in this population.

[3] We focus on only half of the conversational process, ignoring the important "listener" role and the interactional work done by the nonspeaker. In our six-person discussion groups, speaking acts could be coded much more reliably than the subtler listener responses.

A third problem is that interruptions may differ in their impact depending on their content. While an interruption that comments positively on an idea, repeats a phrase, or finishes a thought for a speaker is clearly a violation of turn-taking norms, it is supportive of the speaker and may be the basis for highly collaborative talk (Tannen 1987). Interruptions that interject negative comments or put-downs or completely ignore the speaker by introducing an unrelated topic are more intrusive and disruptive; they are much more explicitly an attempt at power. More neutral interruptions may be related to issues of power or may result from lack of a shared speech style. Lumping types of interruptions into a single analysis may mask important differences in conversational dynamics.

A final concern is the importance of social context in determining conversational interaction. As Thorne, Kramarae, and Henley (1983, p. 13) noted, the study of isolated conversational variables almost universally leads to further questions about the effects of setting, topic, roles, and other social factors that may interact with gender. Three factors that might affect interruptions are considered here: the intimacy of the conversants, the size of the group, and the sex composition of the group.

THE CONTEXT OF CONVERSATION

The research on interruptions has concentrated heavily on conversations in intimate dyads. While these intimate settings are important domains for the exercise of interpersonal status and power, these studies may not generalize to a wide variety of more impersonal, task-oriented situations. Several researchers have found that intimacy influences conversational dynamics. Intimates have less sex-differentiated conversations than nonintimates (Heiss 1962). Among friends, overlaps in speech are frequently instances of highly collaborative talk: cooperative sentence building, requesting and giving verification through backchannels, and "savoring repetitions" (Tannen 1983). But friends also interrupt less and have more silences (Shaw and Sadler 1965). Among stable couples, power and dominance are likely to be more important than sex in determining interruptions, question asking, and topic control (Kollock et al. 1985; Vuchinich 1984, p. 231). Therefore, the typical study of interruptions among

intimate dyads is likely to underestimate interruption rates and their sex differentiation.

In studies of larger, less intimate groups, group composition variables become important. Both researchers and popular writers have noted that groups of different sex composition have different patterns of talk. All male groups seem to be more competitive, to form dominance hierarchies more quickly, and to maintain stable hierarchies during continued interaction (Aries 1976). Some evidence suggests that both men and women express more negative and less positive socioemotional behavior in mixed-sex than in same-sex groups (Anderson and Blanchard 1982).

The best developed theoretical work on the group composition question is Kanter's (1977) theory of proportional representation. Kanter suggests that variations in sex composition within the mixed-sex category are important. In particular, minority group members are under special interaction pressures in groups with a skewed distribution. Such token members may adopt conservative behavior patterns, avoid conflict, and become a relatively passive audience for the boundary-heightening behavior of the majority. Empirical studies generally have supported Kanter's ideas, showing that group dynamics and minority achievement differ in skewed as opposed to more representative groups (e.g., Spangler, Gordon, and Pipkin 1978; Alexander and Thoits 1985). South, Markham, Bonjean, and Corder (1987) and Wharton and Baron (1987) suggest that social support and interaction quality differ in work groups with varying sex composition.

We have two goals for the current analysis regarding the context effects on interactional process. First, we widen the context of the earlier research on interruptions by studying interactions among nonintimates in a task-oriented setting. Second, by using larger groups and systematically varying sex composition, we study the effects of this complex context variable on the interaction.

INTERRUPTIONS IN GROUP DISCUSSIONS

In this study, the task-oriented nature of the groups serves two purposes. It creates an instrumental framework similar to that of many work groups, allowing us to study a domain in which the ability to promote ideas

and gain recognition is likely to be particularly important. It also produces conditions under which status effects are most likely to be found (Berger et al. 1980).

We use six-person groups both to create the differentiation that is typical of larger groups and to have groups in which Kanter's definition of a skewed group could be met (with a 1:5 ratio). The sex composition of the groups systematically varies, while variation in other status characteristics is minimized.[4] Group members' prior knowledge of each other was minimal[5]; our assumption was that this lack of previous intimacy will heighten the effects of the observable status characteristic (gender) relative to other status or power differences that might develop as the result of long-term interaction.

We address three questions about interruptions and conversational dynamics. First, who attempts to interrupt whom? Attempts to interrupt represent disregard for the speaker and an attempt to block his or her interactional goals. We analyze who makes these attempts at conversational dominance, who are the recipients of these power plays, and how the group context of the discussion affects power attempts.

While any interruption attempt violates turn-taking norms, some interruptions may be more intrusive than others. We ask how the character of interruptions varies across speakers and groups. For example, are men or women more likely to make supportive interruptions? Do certain group compositions create more negative interruptions?

Finally, what determines whether an interruption succeeds? Are some interrupters more likely to wrest the floor from another? Does this success rate vary depending on the affective character of the interruption? Do

different types of interruptions work for men and women (or against men and women)? Such questions are important, for these successful interruptions are the most serious intrusions into speakers' talk. They represent conversational dominance—the successful use of power in these group discussions.

To control for the frequency with which males and females are at risk of being interrupted and to allow more detailed statements about the pattern of interruption attempts and their success, we analyze the log odds that an interruption was attempted (relative to normal, uninterrupted transitions), as well as the log odds of an attempted interruption succeeding.[6] Such an analysis controls for risk factors; if males participated more frequently than females (and were at greater risk of being interrupted), there would simply be more conversational transitions involving males. The relative size of this marginal would not affect the estimates of the degree to which sex and group composition influence interruptions. This form of analysis also compensates for the fact that different group compositions offer differing opportunity structures for male/female interaction (e.g., in a group with two females and four males, the females would be more likely to interrupt a male than a female simply by change—a given female would have only one other female to interrupt as opposed to four males).

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[4] Students who wanted to participate filled out an index card with their name, social security number, age, and major area of study. The sex and race of students were noted surreptitiously as the cards were collected. The cards were used to manipulate sex composition, to hold constant other status characteristics (age, major, race), and to assign students randomly to groups within the limits imposed by sex composition and class times.

[5] Students from eight different classes (most with more than 50 students enrolled) constituted the subject pool. Postexperimental questionnaires confirmed that the randomized selection of students from large classes effectively eliminated prior personal knowledge in most cases.

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[6] A logit model was used in preference to other statistical techniques because interrupted transitions are rare relative to normal transitions (including overlaps, simultaneous speech, unsuccessful interruptions). Since the transitions are the unit of analysis here, the statistical model requires the unlikely assumption that each transition is an independent event. Kollock et al. (1985, p. 39) note that the behavior of an individual within a couple is not independent of his or her partner; the same is undoubtedly true for group members' behavior within a group—it will be influenced by other members and by previous features of the conversations. Note, however, that Vuchinich (1984) finds in family discussions that sequencing in oppositional moves can be described as a first-order Markov process: one move affects the next, but not a long chain of consequences. Since the independence assumptions of the statistical model are not perfectly met, we regard all significance tests to be suggestive only. In effect, we used such tests to help locate patterns in the data rather than in a hypothesis-testing framework.

To address the important questions about the affective character of interruptions, we analyse the odds that an attempted interruption is supportive or negative (as contrasted with neutral comments and elaborations). At a later stage of the analysis, we also look at the odds of success separately for supportive, negative, and neutral interruptions.

DATA COLLECTION[7]

The subjects were undergraduates enrolled in introductory Sociology. The experiment used only white students between the ages of 17 and 25 to minimize variation in important statuses other than gender. We systematically varied the sex composition of the six-person groups, with approximately five groups representing each of seven experimental conditions (see Table 1).[8]

A sex-neutral collectively oriented task (a variation of the task developed by Fisek 1974) stimulated an active group discussion. The task is described more completely in Smith-Lovin, Skvoretz, and Hudson (1986). To motivate the groups, we awarded a $30.00 prize ($5.00 per group member) at the end of the semester to the group who arrived at the best solution. To minimize confounding effects of seating, we placed the six group members around a circular table with randomly assigned seating.

Two video cameras recorded interaction through one-way mirrors. We later transcribed all group discussions, using the best videotape as a primary source, while relying on the second to resolve problematic exchanges. We coded an interruption attempt when one speaker's utterance was broken by an intrusion into the internal structure of the speech act, not corresponding to a possible transition place (following the definition by West and Zimmerman 1977). We coded an interruption attempt as successful when one speaker's utterance prevented another speaker from completing a speech turn. If the speaker completed the utterance to a normal transition

place despite the intrusion, we considered the interruption attempt to be unsuccessful. For purposes of the analysis here, a noninterrupted transition constituted all other occasions when one speaker followed another (including minor overlaps of speech and normal transitions). Simultaneous starts were rare; although the continuation of speech after a simultaneous start may be an indicator of dominance, it is not a violation of turn-taking norms. Therefore, we did not code such simultaneous starts as an interrupted transition for this analysis. Similarly, we did not code backchannel utterances that produced simultaneous speech as attempted interruptions; Tannen (1983) argues convincingly that such overlaps are *not* norm violations and that they support rather than disrupt the speaker's utterance in most cases.

After six months, we recoded one group's videotapes to check coder reliability. Of 186 transitions, the coder credited 8 different speakers in the two codings, resulting in an accuracy of 96 percent. In none of these cases was an interaction originally credited to one sex shifted to another; nor was the interrupted versus noninterrupted status of a transition changed.

We coded the affective character of interruptions into three categories using typed transcripts of the conversations. We considered an interruption supportive if it expressed agreement with the speaker, if it made an affectively positive request for elaboration ("that's a great idea; how do you think we should do it"), or if it completed the speaker's thought (often repeating several of the speaker's words, then continuing to a normal transition place). We coded an interruption as negative if it expressed disagreement with the speaker, raised an objection to the speaker's idea, or introduced a complete change of topic (disregarding the speaker's utterance entirely). We coded all other interruptions as neutral. This category included interruption attempts that were so short that their content could not be determined, interruptions that elaborated on the topic of the interrupted speaker without evaluative content, and requests for clarification where it was unclear from context whether the request was a challenge or a request for more talk. We do not imply by our labels that supportive interruptions are not disruptive to a speaker's talk and his or her ability to accomplish interactional goals. In

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[7] A more complete description of data collection procedures is available in Smith-Lovin et al. 1986.

[8] Data on 31 groups in all were collected. Five groups were studied in all seven conditions except all female (four groups), five females (three groups), and four females (four groups). Scheduling problems prevented these conditions from having five groups.

fact, one reader has suggested that in established power structures such supportive interruptions can be used to signal power; the high-status actors may use positive comments to reward task-related behaviors from subordinates or to take over the discussion of promising ideas suggested by others. However, since such supportive disruptions may spring from different conditions and lead to differing consequences than the more conflictual negative interruptions, we distinguish them for further analysis.

ANALYSIS AND RESULTS

We analyze speech transitions in the form of an incomplete 7 X 2 X 2 X 7 contingency table (see Table 1). This table includes eight rows with structural zeroes (indicated by *) which represent combinations of speakers and

followers that are logically impossible. Thus, six rows are completely blanked since, for example, it is impossible for a male to follow a female speaker in an all-male or all-female group. Rows 8 and 21 are only partially blanked. Male-male transitions are possible in groups with only one male member, as are female-female transitions in groups with only one female member. Such transitions were coded whenever a pause of greater than 1.5 seconds occurred between two utterances made by the token member of the group (following Fisek's [1974] definition of an action opportunity). Such transitions, however, cannot be interruptions.

Several observations about group interaction are immediately apparent. First, interruptions are very rare: 540 interruptions compared to 4,576 noninterrupted transitions in the 31 group discussions. Group discussions

Table 1. Outcome of Speech Act by Sex of Speaker, Sex of Follower, and Number of Females in Six-Person Groups

			Outcome of Speech Act						
			Interrupted						
			Successful			Not Successful			Not Interrupted
Number of Females	Sex of Speaker	Sex of Follower	Supportive	Negative	Neutral	Supportive	Negative	Neutral	
0	M	M	16	0	5	7	3	4	534
0	M	F	*	*	*	*	*	*	*
0	F	M	*	*	*	*	*	*	*
0	F	F	*	*	*	*	*	*	*
1	M	M	9	3	14	15	3	15	674
1	M	F	0	0	1	3	3	3	67
1	F	M	2	4	6	1	1	3	61
1	F	F	*	*	*	*	*	*	14
2	M	M	4	2	9	5	5	8	380
2	M	F	1	2	6	3	0	12	192
2	F	M	1	5	6	6	1	10	187
2	F	F	4	0	10	4	0	4	116
3	M	M	4	2	3	4	1	0	198
3	M	F	4	1	5	4	2	16	160
3	F	M	5	3	9	1	3	2	145
3	F	F	3	0	1	3	1	0	103
4	M	M	0	1	4	0	0	3	118
4	M	F	7	1	7	4	3	10	220
4	F	M	3	2	12	4	2	11	213
4	F	F	3	4	11	3	1	9	241
5	M	M	*	*	*	*	*	*	24
5	M	F	3	1	2	0	2	5	120
5	F	M	1	1	4	1	2	5	111
5	F	F	7	5	8	4	2	14	265
6	M	M	*	*	*	*	*	*	*
6	M	F	*	*	*	*	*	*	*
6	F	M	*	*	*	*	*	*	*
6	F	F	13	12	15	5	3	14	433

* Denotes a structural zero (a combination that is logically impossible).
   Note that groups with only one female can have a female speech act followed by another female speech act and groups with only one male can fave a male-male transition. Such occurrences are the result of a pause greater than 1.5 seconds between two utterances made by the "token" member of the group.

typically lasted 15 minutes, with approximately 17.4 interruption attempts per quarter hour. This rate is similar to the 18.6 attempts per quarter hour observed by Kollock et al. (1985). Explicitly negative interruptions are especially rare in our data, marring only 1.79 percent of the observed speaker turns.

We employed a variant of the continuation-odds strategy suggested by Fienberg (1980) to analyze Table 1. We first considered the odds that an interruption attempt is made. We also analyzed the relative odds of supportive, negative, and neutral attempts. In a later stage of the analysis, we focused only on the attempted interruptions, analyzing the odds of success. Thus, the analyses of Table 1 proceeded by focusing on several partitions of the seven columns, which correspond closely to the questions raised above.

At each stage of the analysis, we estimated a set of logit models. Since the odds that we described above are asymptotically independent (Feinberg 1977, p. 87), we estimated the models and assessed their fit separately at each stage of the analysis. The individual chi-squares were then added to get an overall goodness-of-fit measure for the set of models (see Table 2).

The total baseline chi-square represents the model of independence of the row and column classifications of Table 1. In Table 2, this model yields $L^2 = 219.31$, $df = 114$. The overall fit for our set of preferred[9] models is given by $L^2 = 126.78$, $df = 104$. Since all our models are logit-specification models which include the highest-order interaction among the independent variables, the eight rows of the table including structural zeroes are effectively eliminated from the computations. Each partition of Table 1 differs only in the numbers of columns (i.e., the aspect of the interruption variable that is analyzed). Hence, degrees of freedom for each baseline model can be calculated as $(20 - 1)(\#\text{columns} - 1)$. We began the analysis of each partition by estimating the standard logit models for a four-way table, testing for various combinations of main and interactive effects of sex of speaker, sex of follower, and number of females in the group on the interruption

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[9] We use the term "preferred model" below to indicate a model that cannot be simplified without a significant increase in the likelihood-ration chi-square and cannot be significantly improved on by including additional effects.

variable. We also considered similar series of models in which the effect of number of females in the group was constrained to linearity.

Interruption Attempts

To address the first question of who attempts to interrupt whom and under what conditions, we combine the first six columns of Table 1, contrasting all six types of attempted interruptions with uninterrupted transitions. Our preferred model includes an interactive effect of the sex of speaker and the sex of follower. The odds of a male attempting to interrupt another male (.078) are less than one-half the odds of a male attempting to interrupt a female (.163). Females attempt to interrupt male and female speakers at essentially identical levels (odds of .146 and .141 respectively). In other words, men discriminate in their interruption attempts, interrupting women much more often than men. Women, on the other hand, do not discriminate; they attempt to interrupt men and women equally. Group composition does not appear to influence interruption attempts. Net of the sex of speaker/sex of follower interaction, neither the linear nor unconstrained effects of number of females are significant. In particular, we do not see any impact of token status on interruption attempts in the (1:5) and (5:1) groups. Group composition does not interact with other independent variables in affecting attempted interruption.

The Affective Character of Interruption Attempts

How does the affective character of interruption attempts vary across speakers, interrupters, and groups? To address this question, we combine successful and unsuccessful interruption attempts, retaining the distinction between positive, negative, and neutral character. Thus, the dependent variable has three categories: supportive, negative, and neutral interruption attempts. The results of this analysis indicate a significant four-way interaction among sex of speaker, sex of follower, number of females, and the character of the interruption. Inspection of the observed odds suggests a concise representation for this

Table 2. Fit of Baseline and Preferred Model for Each Partition of Table 1

Partition	Baseline Model		Preferred Model	
	df	L^2	df	L^2
A. Interruption attempts: (attempted interruption vs. normal transition)	19	60.42	16	15.97
B. Content of interruption attempts: (supportive vs. negative vs. neutral)	38	74.42	36	51.87
C. Success of interruptions:				
i. positive	19	26.29	18	19.91
ii. negative	19	30.08	18	21.24
iii. neutral	19	28.10	16	17.79
TOTAL	114	219.31	104	126.78

interaction. This preferred model[10] includes a linear effect of group sex composition (number of females) only for male attempts to interrupt other males with supportive (as opposed to neutral or negative) comments. This effect is negative, indicating that males direct more supportive interruption attempts toward other males in all-male groups (a fitted odds of 1.82). The odds of a male-male interruption being supportive decline steeply as the proportion of women in the group increases, reaching a low of .26 in groups with just two males. For all other sex combinations (male-female, female-male, and female-female), the odds that an interruption attempt is positive are equal (.47) and do not vary with group composition. Under this model, the odds that an interruption attempt is negative (.30) also are not affected by group composition or gender.

Our analyses revealed no token effect in support of Kanter's ideas.[11] The (1:5) and (5:1) groups did not deviate significantly from

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[10] Examination of residuals indicates that the relative lack of fit for this portion of our model is attributable to two cells in the cross-classification — those pertaining to same-sex (male-male and female-female) supportive interruption attempts in groups containing three males and three females. Our preferred model underestimates the frequencies in these two cells; reestimating the model while "blanking" these cells results in $L^2 = 32.61$, df = 34. However, since the combined frequency in these two cells is just 14 and since we have no compelling theoretical reason to expect such a pattern, we prefer the model described here.

[11] While our ideas have been directed by Kanter's discussion, this analysis cannot be considered a test of her theory of proportional representation. The link between the outcomes that she discusses and the conversational processes of transition and interruption is too loose to be more than exploratory.

the linear relationship described above. Similarly, the groups containing tokens did not influence the odds of an interruption being supportive or neutral (as opposed to negative) in affective character.

Success of Interruptions

What factors determine whether an interruption succeeds? To address this question, we originally analyzed the odds of an interruption attempt succeeding by affective character of interruption, by sex of speaker, by sex of follower, and by group composition. That analysis showed that the answer to the question of who is more likely to succeed varies by the affective character of the attempt. Thus, in this section we model the odds of success separately for positive, negative, and neutral interruption attempts.

For positive interruption attempts, we find a significant nonlinear effect of group composition on the odds of success. In mixed sex groups, positive interruption attempts have about a 50–50 chance of success (an odds of .94). Positive attempts are more than twice as likely to succeed in all-male or all-female groups (odds of 2.42). Men and women who are faced with a supportive intrusion in such groups yield the floor much more frequently than their counterparts with an opposite-sex audience. Groups with a token composition (1:5 and 5:1) did not differ significantly from other mixed-sex groups (with 2:4, 3:3, and 4:2 distributions of males and females).

For the relatively rare negative interruption attempts, the predicted odds of success depend only on the sex of the person being interrupted. The odds of a man yielding the floor to a negative interruption are .59; for women, these odds are over three times as great (2.24). There is no significant effect of

the sex of the interrupter—both men and women are more likely to succeed in interrupting the speech of women with negative comments.

Finally, for neutral interruptions (the most frequent category) we find significant main effects of both sex of speaker and sex of follower and a marginally significant ($p = .075$) interactive effect of these two variables on the odds of success. Under the simpler model, women succeed less frequently than men when they attempt to interrupt with a neutral comment, while they are more likely to lose the floor when someone attempts to interrupt them. The interactive effect clarifies this result. When men are speaking, women are less than half as likely as men to successfully interrupt them with a neutral, elaborating comment (.45 compared with 1.17). When women are speaking, the odds of success are roughly the same for women and men (1.19 and 1.10). Therefore, the exceptional ability of men to hold the floor against a female's neutral interruption is the major feature creating the two main effects observed in the simpler model.

The success of negative and neutral interruption attempts does not depend on group composition. Most importantly, we find no evidence that token members of a group are more or less successful in their interruption attempts; nor are they more or less likely to yield the floor.

DISCUSSION

This analysis of interruptions in large, task-oriented discussion groups supports previous research and adds new information about the form of the relationships. We find support for the typical finding that there is considerable gender inequality in interruptions. But we see that this inequality is not the result of a sex difference in frequency of interruption, or even a simple dominance effect. Instead, it is produced because men discriminate in their interruption attempts, disrupting the speech of women far more frequently than that of men, while women do not discriminate, interrupting women and men equally often. This pattern carries over into the pattern of successful interruptions, since interruptions are more likely to succeed against women than against men (especially when interruptions are disruptive and negative in character). Men, on the other hand, are more able to fend off potential disruptions, especially when directed at them by women (this pattern is especially clear with neutral interruptions).

In effect, men are acting as if sex is a status characteristic (within the expectation states framework) (Berger et al. 1980) but women are not. Men interrupt women more than other men, a pattern we would expect if they had higher task expectations for males than females.

By attempting to interrupt men at the same rate as other women, and by yielding to intrusions at the same rate whether they come from men or women, women are behaving as though sex were not a status characteristic for them. While it is possible that the statuses of male and female are linked to performance expectations for males and not for females, it seems unlikely that the two sexes could maintain such divergent performance expectations during long-term interactions. Perhaps this is why Kollock et al. (1985) found that power in the relationship is more important than gender among established couples.

Still, it is difficult to believe that men and women are bringing radically different ideas about male and female competence to our small-groups setting. Many expectation states experiments have shown that sex is a status characteristic for both men and women and in our society (see review in Wagner et al. 1986). Furthermore, in other analyses of these data we observe the participation inequalities by sex that typically indicate status ordering (Smith-Lovin et al. 1986). It is unlikely that men and women have substantially different views of the societal status structure.

Another view that could explain the pattern would be a mixture of status effects and of conflict between males and females within the groups. In this combination, both status differences and adversarial relations between males and females would lead males to interrupt women more than other men. But for females, the two effects would produce opposite predictions: status differences would suggest deferring to men while interrupting other women, while adversarial conflict would suggest interrupting men while respecting or supporting the speech of other women. If the two effects were roughly equal in strength, they could cancel one another, producing no sex difference in interruptions for females.

Several recent studies yield some indirect support for conflict dynamics in mixed-sex groups. Ridgeway's (1981, 1982) experiments show that females in mixed-sex groups lose favor quickly if they do not express a group orientation (through group-oriented cues and conformity). Taps and Martin (1988) find that females who are tokens in all-male groups need external accounts for their ideas to gain influence; they also find that women are less liked in sex-balanced groups than in single-sex or token groups. South et al. (1987) show that both men and women get less social support for achievement from their opposite-sex coworkers when the work group becomes evenly mixed. Similarly, Wharton and Baron (1987) find that men have lower job satisfaction, lower self-esteem, and higher job-related depression when they are in evenly sex-mixed work settings (as opposed to either male-dominated or female-dominated settings). They interpret these findings to indicate a decline in the quality and quantity of intergroup relations in such numerically balanced settings.

While all of the above studies could be interpreted in different ways, they are all consistent with cross-sex conflict in groups. If we add this conflict imagery to the status differentiation between males and females that is so widely demonstrated in the early small groups literature and in the expectations states tradition, we may explain the sex differentiation in males' interruption patterns and the apparent lack of discrimination in females' interruption attempting and yielding patterns (as the status and conflict effects cancel one another out).

The complex effects of group composition and the affective character of interruptions on conversational dynamics in our task-oriented groups reinforce the picture of simultaneous status differentiation and conflict. We find that supportive interruptions show different patterns from the negative and neutral interruptions where conflict dynamics are most likely to be played out. These supportive interruptions are the most influenced by group sex composition. In all-male groups we find that male-male interruptions are most likely to be supportive. Males interrupting other males in such groups often clarify and even encourage the ideas suggested by the interrupted speaker. Although the speech is disrupted, the group discussion of the topic is not. Such supportive, topic-continuing inter-

ruptions are also more likely to succeed in a single-sex context.

These indications that single-sex groups have a more supportive, lively, non–status-dominated flow of ideas is supported by some work in the Bales tradition (Anderson and Blanchard 1982). This research indicates both men and women express somewhat less positive socioemotional behavior in mixed-sex than in single-sex groups. Kanter (1977) also points to some maladaptive consequences of interaction in mixed groups, especially in minority-majority interactions within skewed groups. (However, in our data, skewed groups do not differ from more numerically balanced compositions.)

Perhaps positive, spontaneous, and pleasantly disorganized speech occurs most frequently between status equals. When status differentiation and/or opposing group memberships are activated in more heterogeneous groups, much of the supportive interruption drops out (or succeeds less frequently). Perhaps the presence of a common speech style in a homogeneous group leads to more relaxed, less conflictual group interaction. Tannen (1980) suggested that speakers may be characterized by stylistic patterns (high-involvement versus high-considerateness) that include features such as frequency of overlap, length of pause between utterances, preference for shifts in amplitude and pitch, and tendency to talk through overlaps. When these speech styles are shared, they provide the basis for well-coordinated talk. However, when opposing styles are mixed in conversational groups, negative interpretations of others' actions are frequent. (High-involvement speakers think slower-paced talk indicates lack of rapport and interest; high-considerateness speakers are more likely to call the overlap style competitive and dominant, although stimulating.) If such speech styles are correlated with sex (and participation inequalities suggest that they might be), members of mixed-sex groups may find themselves misinterpreting and reacting against the speech of others.

In summary, we find considerable gender inequality in the pattern of interruptions, but it is not easily described by a straightforward status/dominance process as implied by the expectations states tradition and by most conversational analysts. Men's actions could be explained by such theoretical traditions, but we find women's interruption attempts

and patterns of yielding the floor do not support an image of females simply submitting to the higher-status (in expectation states' terms, higher task expectation) males. Women direct and accept interruptions in a way that does not differentiate systematically between males and females. In addition, we find interesting effects of interruptive content and group sex composition on conversational process. These factors suggest that issues involving conversational style, coordination of speech, and salience of gender identity within groups of varying composition are fruitful areas for further research.

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