The Development and Sex-Related Use of Interruption Behavior

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In this article the authors argue that claims of sex differences in interruption behavior should not be uncritically accepted as there are limitations in previous research that make such acceptance questionable. The frequency of interruption was examined over a portion of the early life span (Grades 4 and 9 and college). Twenty-minute structured conversations of 90 dyads (30 male, 30 female, and 30 mixed sex) were scored for four types of interruption, and both developmental and sex differences in interruption behavior were examined. Interruption frequency did not change over age or across dyads of different sex composition. Males did not interrupt any more than females did and females were interrupted by their partners as frequently as males were interrupted by theirs, with one exception: Grade 9 females were interrupted more by their female partners. Interruptions were asymmetrically distributed in same-sex and opposite-sex dyads; however, the asymmetry in opposite-sex dyads was not predictable from sex of subject or sex of partner. That is, males did not interrupt females any more than females interrupted males. The authors conclude that wholesale acceptance of sex differences in interruption behavior is not warranted.

Participants in conversations are expected to follow the turn-taking system, which specifies that only one speaker may talk at a time. Thus interruption is prohibited. An interruption event has been defined as an instance of simultaneous speech that involves "a deep intrusion into the internal structure of a speaker's

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utterance" (West & Zimmerman, 1983, p. 104). It is believed that interruptions display rudeness and a lack of respect for the speaker. It is also felt that they restrict the rights of speakers as well as allow interrupters to control the topic of conversation and to exert control and dominance over their conversational partner (Greif, 1980; Zimmerman & West, 1975). People who constantly interrupt are frequently viewed as authoritarian and domineering (Rogers & Jones, 1975). That is, interruption appears to be a way of establishing and maintaining a status differential.

The belief that sex differences exist in interruption behavior is widely held. The popularity of such belief is illustrated in the subtitle of a recent publication (*Science '85*, reprinted in Duffy's, 1989, *Personal Growth and Behavior 89/90*) aimed at the general population: "In the average conversation, women ask 70 percent of the questions and men interrupt 96 percent of the time." Such hyperbole is common in this field. In the present article, the authors question the widespread and uncritical acceptance of such claims of sex differences in interruption behavior.

A body of literature does exist that appears to support the claim that men produce the majority of interruptions when conversing with women (e.g., Argyle, Lalljee, & Cook, 1968; McCarrick, Manderscheid, & Silbergeld, 1981; McMillan, Clifton, McGrath, & Gale, 1977; Natale, Entin, & Jaffe, 1979; Octigan & Niederman, 1979; West, 1979; West & Zimmerman, 1983; Willis & Williams, 1976; Zimmerman & West, 1975). It is generally believed that, by interrupting women far more often than they are interrupted by women, men attempt to dominate and control them in spontaneous conversation. In addition, it is felt that such treatment by males toward females is similar to adult-child conversations where the child usually has restricted rights to speak or to be listened to (Greif, 1980; West & Zimmerman, 1977). The finding that males interrupt females more than the reverse has also been attributed micropolitical significance. That is, the apparent difference in interruption behavior between the sexes has been interpreted as an instance of the general oppression of females in our male-dominated society.

Do women constantly have to deal with interruption in conversation and put-downs and dismissals in society? This may not be the pervasive phenomenon that has been suggested; in fact, there is reason to question just how strongly the evidence supports the claim of a pervasive sex difference in interruption behavior. Some contrary evidence has begun to appear. In a study by Leet-Pellegrini (1980), the

notion of sex differences in conversational competitiveness was supported by some of her findings, whereas other results indicated that a shift in context can either depress or enhance a female show of dominance. Her results concerning interruptions also did not provide the striking finding that was observed by Zimmerman and West (1975) in which males routinely interrupted females. Beattie (1981) did not find sex differences in either the frequency or type of interruption in tutorial discussions. He felt that this was due to women interrupting more than they had in previous studies because the social context in his study demanded that the interactants make an impression. Dindia (1987) found that men did not interrupt more than women and that women were not interrupted more than men. Females have also been found to sometimes compete with males in cross-sex interactions (Ober, 1978; Scheel, 1979) as well as interrupt the interrupter (McCarrick et al., 1981).

In addition to the studies showing contrary evidence, there are design limitations in previous research that force one to be suspicious of claims that males overwhelmingly interrupt females and do so to obtain dominance and control. One limitation is the exclusive focus on male-female interaction by the majority of previous researchers. It is possible that although males routinely interrupt females in cross-sex interaction they might also interrupt males as often as they interrupt females. That is, if men interrupt other men as frequently as they interrupt women, then the sole purpose of this conversational strategy for men cannot be the domination of women. Hence it is important to examine and compare dyads of different sex compositions to begin to understand interruption behavior.

A second limitation in previous research concerns the use of improper statistical techniques. Conclusions of sex differences in interruption behavior are often based on empirical evidence using faulty statistical analysis (Dindia, 1987). Previous studies have placed the data from both members in a dyad into the same analysis and then analyzed the data with methods that assume independent observations (Dindia, 1987). Such procedures have serious consequences. Kraemer and Jacklin (1979) discussed the implications of ignoring the correlation between dyadic partners and argued that conclusions concerning the significance of findings may not be correct. For instance, if the correlation between dyadic partners is positive, then it might be decided that a result is significant when it is not because the statistical test is not conservative enough. However, if the test is not

liberal enough and the correlation is negative, it might be concluded that the effect is not significant when it actually is (see Kenny & Judd, 1986).

Dindia (1987) discussed an additional problem concerning the analysis used in previous research. The majority of past studies have tested for the effect of sex of subject, without giving any attention to the effect of sex of partner or the interaction of sex of subject and sex of partner. Thus sex of subject is viewed as the source when significant results are found, despite the fact that a sex of partner or an interaction effect might be the cause. Dindia also mentioned that past studies take nonsignificant results to indicate no sex differences when it is possible that significant partner or interaction effects may exist. It is also interesting to note the complete lack of statistical tests in studies that are frequently cited as evidence for sex differences in interruption behavior (West, 1979; Zimmerman & West, 1975).

A third limitation is the failure to examine type of interruption. The majority of previous researchers have treated interruption as a unitary phenomenon as well as a conversational device that reflects dominance and control (e.g., Zimmerman & West, 1975). However, other researchers have suggested caution in assuming that the term *interruption* is well-defined and nonproblematic (Auer, 1983) and always reflects or signals dominance (Gallois & Markel, 1975; Natale et al., 1979; Stephenson, Ayling, & Rutter, 1976). For instance, whereas some researchers (e.g., Rogers & Jones, 1975) have found a positive relationship between dominance and interruption, others have not found interruption to be related to dominance. Ferguson (1977), for instance, related the propensity to interrupt to the relative dominance of interactants and found that overall measures of interruption (sum of all interruption categories) were not affected by the dominance measure, contrary to the traditional view. However, she did find different categories of interruption to be related to dominance. Other researchers have argued that it would be a mistake to conclude that every interruption event is a duel for control (Meltzer, Morris, & Hayes, 1971; Natale et al., 1979) but, rather, that different events may be used for different purposes. For instance, although men may use more interruptions overall than women, it may not be the case that the types of interruption they use are only for domination. It is, therefore, necessary to classify interruptions into various types. Both Ferguson (1977) and Beattie (1981) have shown that independent and distinctive categories of interruption exist. Because these categories have been

shown to have validity and usefulness in other research, they were employed in the current investigation.

Previous work concerning violations of the turn-taking system is also limited in that, with the exception of a few studies of preschoolers (e.g., Esposito, 1979; Greif, 1980; Peterson, 1986), researchers have focused primarily on interruption behavior in young adults (e.g., West & Zimmerman, 1977, 1983; Zimmerman & West, 1975). To obtain a comprehensive description and understanding of sex-related differences in interruption behavior, it is necessary to understand how interruption frequency changes with age (i.e., how it develops). For instance, how does frequency of interruption change as an individual grows older? One would expect that as individuals age, and as the rule that states that it is impolite to interrupt becomes deeply ingrained into their conversational repertoire, the frequency of interruption of a conversational partner would decrease. It is also not known at what age this conversational skill begins to appear adult-like.

The major aim of the present study was to determine whether developmental and sex differences exist in different forms of interruption behavior when major limitations of previous research were addressed. To address such limitations, frequency of interruption was examined over a portion of the early life span (Grades 4 and 9 and college) and in dyads of different sex compositions. Various types of interruption were studied, using the classification system of Ferguson (1977) instead of the undifferentiated Zimmerman and West (1975) definition. Most importantly, proper statistical techniques were used: The Kraemer-Jacklin (1979) procedure was implemented to separate and examine the effects of sex of subject, sex of partner, and the interaction of subject and partner while taking into account the correlation between dyadic partners.

The specific research goals were to determine (a) whether interruption behavior was different at different ages and whether some types of interruption develop, or reach the adult usage level, before others; (b) the effects of sex of subject, sex of partner, and their interaction on the number of simple, overlap, butting-in, and silent interruptions produced and whether these effects changed depending on the age of the conversationalists; and (c) whether the four interruption types were symmetrically or asymmetrically distributed between dyad members in the male-male, female-female, and male-female dyads.

METHOD

Participants

There were 60 participants (mostly middle class) from each of three different age groups: Grades 4 and 9 and college (N = 180 respondents). For the two younger groups, 30 students (half male, half female) were randomly chosen and teachers were then asked to pair each student with a friend (of an assigned sex; see below) from the remaining participants.[1] Thirty college students (half of each sex) were obtained through advertisements. Each student was asked to bring along a friend of an assigned sex who was approximately the same age and was also attending college.

Procedure

Before the study began, each of the first 30 participants in each age group was randomly assigned to engage in either a same-sex or opposite-sex dyadic interaction such that there were 10 female-female, 10 male-male, and 10 female-male dyads per age group.

Each dyad was taken separately into a room in their school and both students were then seated adjacent to one another. All respondents were informed that the researchers were interested in studying how people make decisions and each participant was handed a sheet containing possible discussion topics, such as capital punishment, family allowance, and school tuition.[2] These topics were read to the elementary school students.

Participants were asked to discuss any or all topics for as long as they liked and to diverge to their own topics if they wished. The experimenter left the room and conversation was audio-recorded for approximately 20 minutes.

Scoring System

Each of the 90 dyadic conversations was transcribed and scored for interruption responses according to the system described below. A summary of the major characteristics of the four interruption types is provided in Figure 1.

Interruption Characteristic	Simple	Overlap	Butting In	Silent
Simultaneous speech	X	X	X	
Break in continuity of original speaker's utterance	X			X
Original speaker's thought is completed		X	X	
Interruption is successful	X	X		X

Figure 1: Characteristics of Simple, Overlap, Butting-In, and Silent Interruption

Simple Interruption

The original speaker's utterance is disrupted as the interrupter speaks simultaneously and succeeds in taking the floor (Ferguson, 1977), as shown in the following example:

S1: Well, it's not going to do him any good, complaining to everyone, unless he wants **[to take**
S2: **No]**
because I'm still not going to do what he wants.

Overlap Interruption

This type of speaker switch involves simultaneous speech in which the initiator of the simultaneous speech succeeds in taking the floor. However, there is no break in continuity in the original speaker's utterance in that the speaker's thought is completed (Ferguson, 1977), as the following example shows:

S1: But to stay home and do nothing at least **[I'm doing some work here.**
S2: **And sit around]**
and while I'm watching T.V. and talk to me, I can't believe it, like how ignorant.

Butting-In Interruption

Again, as in overlap and simple interruption, simultaneous speech is present (although this is not always necessary). However, there is usually no break in continuity of the current speaker's utterance, and unlike the previous two types of speaker switches, the initiator of the

simultaneous speech is unsuccessful in obtaining the floor (Ferguson, 1977). The following example demonstrates this:

S1: . . . Although I don't think anybody would do that unless they're going against what she says **[and I**
S2: **Ya, but]**
S1: can't see anybody going against that.

Silent Interruption

No simultaneous speech is involved in this interruption, and the original speaker's utterance is not completed when the interrupter takes the floor (Ferguson, 1977).[3] This is shown in the following example:

S1: But before you knew all this stuff, before you knew that she was (pause < 1 sec)
S2: That was Tina.

A second person, trained in using the scoring system but unaware of the hypotheses, scored approximately 20% of the transcripts. Reliability for the four interruption categories was calculated by means of number of agreements over number of disagreements plus agreements and ranged between 87% and 95% (mean = 92%).

RESULTS[4]

Frequencies of the four interruption measures (i.e., simple, overlap, butting in, and silent) were tabulated for each member in each of the 90 dyads. Table 1 provides the means and standard deviations of the four interruption types in the male-male, female-female, and male-female dyads across the three age levels.

A preliminary analysis was first conducted to examine the effects of age and dyad sex on interruption frequency. For each interruption type, the number of interruptions produced by each member in a dyad was analyzed using a 3 (Age: Grade 4 vs. Grade 9 vs. college) × 3 (Dyad Sex: male-male vs. female-female vs. male-female) × 2 (Member) repeated measures analysis of variance, where the first two factors were between dyads and the last factor was within-dyad. Across the

TABLE 1

Mean Frequencies[a] and Standard Deviations for the Number of Simple, Overlap, Butting-In, and Silent Interruptions Produced in Male-Male, Female-Female, and Male-Female Dyads Across Age Level

Interruption Type, by Grade	*Dyad Type*					
	Male	*Male*	*Female*	*Female*	*Male*	*Female*
Simple						
Grade 4	**2.10**	**2.90**	**1.70**	**1.10**	**2.60**	**2.40**
	1.91	3.84	1.89	1.85	2.32	3.57
Grade 9	**0.80**	**0.30**	**3.60**	**3.90**	**1.60**	**1.10**
	1.14	0.95	3.20	2.81	1.43	1.20
College	**2.00**	**2.30**	**2.10**	**1.80**	**2.20**	**1.30**
	1.49	1.34	1.10	1.40	3.61	1.83
Overlap						
Grade 4	**2.70**	**3.20**	**1.00**	**1.20**	**0.90**	**1.40**
	2.63	2.20	1.33	1.93	1.20	1.35
Grade 9	**1.40**	**1.60**	**3.70**	**2.60**	**2.00**	**2.00**
	1.84	1.51	2.36	1.43	2.26	2.21
College	**2.70**	**3.00**	**2.50**	**4.20**	**2.00**	**1.90**
	2.83	2.16	1.78	2.66	2.00	1.29
Butting in						
Grade 4	**10.80**	**4.70**	**3.00**	**3.30**	**5.30**	**3.30**
	8.88	3.34	1.94	3.02	5.96	3.47
Grade 9	**2.30**	**2.00**	**5.20**	**6.80**	**3.30**	**3.20**
	3.62	2.00	3.33	5.55	2.87	4.76
College	**5.40**	**4.40**	**4.50**	**5.30**	**3.40**	**5.50**
	3.98	3.95	3.44	3.47	2.32	6.45
Silent						
Grade 4	**6.10.**	**6.70**	**6.00**	**4.40**	**4.80**	**2.70**
	3.38	6.07	4.35	4.40	3.71	2.67
Grade 9	**4.10**	**5.00**	**6.90**	**9.00**	**3.90**	**4.20**
	5.30	4.50	3.98	5.16	3.00	2.62
College	**6.70**	**6.70**	**6.30**	**5.60**	**5.00**	**6.80**
	3.13	2.45	3.02	3.69	2.36	3.05

a. The mean frequencies are in bold type.

four interruption measures, age was not significant nor was dyad sex. That is, there were no significant differences in the number of interruptions produced among Grade 4, Grade 9, and college students for any of the interruption types. As well, the number of interruptions produced in male-male, female-female, and male-female dyads did not differ.

However, there were Age × Dyad Sex interactions in simple interruption ($F[4, 81] = 4.49$, $p = .0025$, $eta^2 = .18$) and butting-in interruption ($F[4, 81] = 3.52$, $p = .0107$, $eta^2 = .15$). Further examination of each interaction effect with post hoc Tukey HSD tests revealed that Grade 9 female-female dyads produced significantly more simple interruptions than Grade 9 male-male dyads ($p < .01$). It was also revealed that Grade 4 male-male dyads produced significantly more butting-in interruptions than did Grade 9 male-male dyads ($p < .05$).

To study the effects of sex on interruption frequency, an examination of the degree of nonindependence between participants' interruption behavior was first conducted. The Pearson product moment correlation coefficient was computed with the male-female dyads and the intraclass correlation coefficient was calculated with the male-male and female-female dyads for each of the four interruption types within each of the three age groups.[5] The correlation coefficients reveal the degree of nonindependence between participants' interruption behavior. Of the 36 correlation coefficients calculated, 11 were significant (all correlations were positive), indicating that 31% of the data were nonindependent. Therefore, the Kraemer-Jacklin (1979) procedure was used to examine the effects of sex of respondent and sex of partner and their interaction on interruption production.

Twelve Kraemer-Jacklin tests (separating age groups) rather than four tests (combining age groups) were conducted because the preliminary analyses indicated significant interaction effects with Age (Age × Dyad Sex and Member × Age × Dyad Sex interactions). That is, to examine the effects of sex of respondent and sex of partner and their interaction, a different Kraemer-Jacklin test was carried out for each of the four interruption types at each of the three age levels (see Table 2).[6] For each interruption type at each age level, this analysis would determine (a) whether males or females interrupt more, (b) whether females or males are interrupted more by their partners, and (c) whether more interruptions occur in same-sex or opposite-sex interaction.

TABLE 2
Kraemer-Jacklin Values for the Sex of Subject, Sex of Partner, and Sex of Subject × Sex of Partner Effects for Each of Simple, Overlap, Butting-In, and Silent Interruption at the Three Age Levels

Interruption Type by Grade	*Kraemer-Jacklin Effect*		
	Subject	*Partner*	*Interaction*
Simple			
Grade 4	–0.3250	–0.2250	–0.2750
Grade 9	0.6750**	0.9250**	0.4000
College	–0.2750	0.1750	0.1500
Overlap			
Grade 4	–0.3375	–0.5875**	0.4375
Grade 9	0.4125*	0.4125*	0.1625
College	0.1000	0.1500	0.5750
Butting in			
Grade 4	–1.6500**	–0.6500	0.5750
Grade 9	0.9375*	0.9875*	0.4125
College	0.5250	–0.5250	0.2250
Silent			
Grade 4	–0.9500	0.1000	1.1500*
Grade 9	1.0750*	0.9250	1.3000*
College	0.3125	–0.6875*	0.4125

NOTE: Significant positive effects indicate that females interrupted more than males did (Sex of Respondents effects), that females were interrupted more by their partners (Sex of Partner effects), and that there were more interruptions in same- versus opposite-sex interactions (Sex of Respondent × Sex of Partner effects). Significant negative effects indicate the opposite (e.g., that males interrupted more than females did).
*p =.05; **p = .01.

The Kraemer-Jacklin Results

Sex of Subject

Grade 9 females used more simple ($z = 3.85$, $p \leq .01$), overlap ($z = 2.49$, $p \leq .05$), and silent ($z = 2.17$, $p \leq .05$) interruption than did Grade 9 males; however, males and females in Grade 4 and at the college level produced similar amounts of all three interruption types. Although Grade 4 males butted in more than Grade 4 females did ($z = -2.61$, $p \leq .01$), Grade 9 females did more butting in than Grade 9 males

did ($z = 2.13$, $p \leq .05$). However, college females and males did not differ in the frequency with which they used butting-in interruptions.

Sex of Partner

Grade 4 males and females were interrupted by their partners with similar frequency with respect to simple, butting-in, and silent interruption; however, Grade 4 males' turns at talk were overlapped more frequently by their partners than females' turns were ($z = -0.59$, $p \leq .01$). Grade 9 females were interrupted more often by their partners than males were interrupted by their partners in terms of simple ($z = 5.27$, $p \leq .01$), overlap ($z = 2.49$, $p \leq .05$), and butting-in ($z = 2.24$, $p \leq .05$) interruption. However, there was no difference in the frequency with which the partners of Grade 9 males and females used silent interruption. College females and males were interrupted equally often by their partners, with the exception of silent interruption; college males were silently interrupted by their partners more so than college females were by their partners ($z = -2.05$, $p \leq .05$).

Sex of Subject × *Sex of Partner*

The number of simple, overlap, and butting-in interruptions produced in same- and opposite-sex dyads did not differ for any of the three age groups. However, Grade 4 ($z = 2.17$, $p \leq .05$) and Grade 9 ($z = 2.11$, $p \leq .05$) conversationalists in same-sex dyads used more silent interruption than did participants in opposite-sex dyads. However, college students produced similar amounts of silent interruption in same- and opposite-sex interactions.

Symmetry/Asymmetry of
Interruption Production Results

To examine whether the number of interruptions in the dyads were symmetrically or asymmetrically distributed between members in same- and opposite-sex interactions, matched-pairs *t* tests were used. To make the comparison between participants in same-sex dyads meaningful, the member who produced the greater number of interruptions was designated Participant 1 and the individual with fewer interruptions was designated Participant 2. This made it possible to

examine whether the individual with the greater number of interruptions in each dyad produced significantly more interruptions than did the individual with fewer interruptions (Dindia, 1987). For opposite-sex dyads, the difference between the number of times that males interrupted females and that females interrupted males was tested for significance with a paired *t* test. In addition, interruptions in opposite-sex interactions were tested for asymmetry without regard to sex of respondent and sex of partner. The data from opposite-sex dyads were recoded by reassigning as Participant 1 the person with the greater number of interruptions and as Participant 2 the person with fewer interruptions, and then the interruptions were reanalyzed with a matched-pairs *t* test.

In terms of simple interruption, examination of same-sex interaction revealed that asymmetry existed in both male-male and female-female dyads for both the Grade 4 ($t = 2.35$ and 3.21, both $ps \leq .05$, respectively) and college conditions ($t = 2.69$ and 2.86, both $ps \leq .05$, respectively) as well as in female-female dyads for the Grade 9 condition ($t = 3.47$, $p \leq .01$). That is, one member in the same-sex dyads interrupted significantly more than his or her partner did. However, similar amounts of simple interruption were produced by Grade 9 males in same-sex dyads.

Examination of the male-female dyads for frequency of male interruption of females and female interruption of males revealed nonsignificance in all three age groups. Thus males did not interrupt females any more than females interrupted males. However, when the opposite-sex interactions were recoded so that participants with the greater number of interruptions were compared with participants with fewer interruptions, asymmetry was revealed with both Grade 4 ($t = 2.88$, $p \leq .05$) and Grade 9 ($t = 2.69$, $p \leq .05$) interactions. Therefore, one of the dyad members in the male-female dyads used simple interruption significantly more than his or her partner did; however, knowledge of the member's sex did not help predict this behavior. Unlike the younger respondents, college students produced similar amounts of simple interruption, as was revealed when the dyads were reexamined without regard to sex.

Examination of overlap interruption in male-male and female-female dyads revealed asymmetric distributions in Grade 4 ($t = 2.89$ and 2.81, both $ps \leq .05$, respectively), Grade 9 ($t = 4.12$ and 3.48, both $ps \leq .01$, respectively), and college ($t = 2.94$ and 3.45, both $ps \leq .01$,

respectively) conditions. When opposite-sex interaction was examined, males were found to overlap females as often as females overlapped males, and this was the case for all age groups. However, when overlap interruptions in male-female interactions were examined for asymmetry without regard to sex of respondent and partner, one of the dyad members did more overlapping than his or her partner at the Grade 4 ($t = 2.59$, $p \leq .05$), Grade 9 ($t = 4.00$, $p \leq .01$), and college ($t = 2.69$, $p \leq .05$) levels.

Similarly, males in the male-male dyads and females in the female-female dyads used butting-in interruption differently than their partners did in all three age groups (Grade 4: $t = 3.25$ and 2.82, both $ps \leq .05$, respectively; Grade 9: $t = 2.76$, $p \leq .05$, and $t = 3.90$, $p \leq .01$, respectively; college: $t = 3.04$, $p \leq .05$, and $t = 3.44$, $p \leq .01$, respectively). Although asymmetry of butting-in interruption was not revealed in the male-female dyads when coded for sex of respondent and sex of partner for any of the different ages, one of the male-female members butted in significantly more than his or her partner did when interruptions were recoded (Grade 4: $t = 2.82$, $p \leq .05$; Grade 9: $t = 2.41$, $p \leq .05$; and college: $t = 3.10$, $p \leq .05$).

As with the previous interruption types, males' and females' production of silent interruption was significantly different from that of their same-sex partners at all age levels (Grade 4: $t = 3.45$, $p \leq .01$, and $t = 2.69$, $p \leq .05$, respectively; Grade 9: $t = 3.45$, $p \leq .01$, and $t = 3.03$, $p \leq .05$, respectively; and college: $t = 3.81$ and 3.55, both $ps \leq .01$, respectively). Again, the number of silent interruptions produced in male-female dyads was symmetrically distributed when the dyads were examined with regard to sex of respondent and sex of partner with both Grade 4 and Grade 9 interactions. However, college females were found to silently interrupt their male partners more frequently in 6 of the 10 cases, whereas there was only one instance where a male interrupted a female ($t = -2.30$, $p \leq .05$). Asymmetry was again revealed in all age groups when the male-female dyads were recoded for dyad member with the most interruptions versus dyad member with the fewer interruptions (Grade 4: $t = 4.32$, $p \leq .01$; Grade 9: $t = 6.68$, $p \leq .01$; and college: $t = 3.88$, $p \leq .01$).

To summarize, interruption frequency did not change with age or dyad composition for any of the four interruption types studied. With regard to sex, the main effect of sex of respondent was significant for 5 of the 12 analyses, 4 of which were due to Grade 9 females

using more simple, overlap, butting-in, and silent interruption than Grade 9 males. The remaining effect was due to Grade 4 males, who butted in more than their female counterparts did. Males, therefore, were not the primary users of interruption.

The main effect of partner was significant in 5 of the 12 cases. Three of the significant effects were due again to Grade 9 females who were interrupted more by their partners with simple, overlap, and butting-in interruption than the males were. Because it was the females who used the majority of these types of interruptions, females were being interrupted by their female partners rather than by their male partners. As for the remaining two cases, Grade 4 males' turns at talk were overlapped more frequently by their partners than females' turns were. And college males were silently interrupted more by their partners than college females were interrupted by theirs. The findings, therefore, do not support claims that women are always the ones who are interrupted.

The interaction of sex of respondent and sex of partner was insignificant for 10 of the 12 cases; simple, overlap, and butting-in interruption were used similarly in same- and opposite-sex interaction. However, Grade 4 and Grade 9 students silently interrupted more in same-sex than opposite-sex interactions.

When the dyads were examined to determine whether interruptions were symmetrically or asymmetrically distributed, 23 of the 24 same-sex dyads examined revealed an unequal distribution of interruptions. The sole exception was the Grade 9 males who produced similar amounts of simple interruption. Examination of the opposite-sex dyads for frequency of male interruption of females and female interruption of males revealed symmetry in 11 of the 12 cases. Males interrupted females no more than females interrupted males. In the only case that showed asymmetry, the college females silently interrupted their male partners more than the males interrupted their female partners. However, when the male-female dyads were recoded for least interrupting member versus most interrupting member, asymmetry was evident in 11 of the 12 cases, the exception being the college students' use of simple interruption. It therefore appears that, although the frequency of interruption in opposite-sex dyads cannot be predicted by sex, males and females are not behaving similarly in opposite-sex interaction with respect to interruption behavior.

DISCUSSION

One of the major aims of the present study was to determine whether sex differences exist in interruption behavior when limitations of previous research were addressed. When interruption frequency was compared across the three dyad types, sex failed to predict behavior. Whether participants were in same-sex male, same-sex female, or opposite-sex interaction, the mean number of interruptions produced did not differ.

A widely cited study in the area of sex-associated use of interruption, that of Zimmerman and West (1975), found interruption to be initiated very rarely in same-sex conversation, whereas significantly more interruption occurred in opposite-sex interaction. Along similar lines, it has more recently been argued (e.g., McCarrick et al., 1981) that men and women rarely interrupt a partner of the same sex but that interruptions tend to occur between two people in unequal but contested relationships. Although the results of the present study are very different from those of Zimmerman and West (1975) and McCarrick et al. (1981), they are consistent with other work. For instance, researchers examining same-sex interaction have found that men interrupt men as often as women interrupt women (e.g., Beattie, 1981; LaFrance, 1981; Roger & Schumacher, 1983; Rogers & Jones, 1975) and that sex composition of a group has no effect on the number of interruptions produced (e.g., Natale et al., 1979; Trimboli & Walker, 1984).

The sex of respondent and partner effects revealed that, for the most part, males and females produced similar amounts of interruption and interrupted their partners with similar frequency, with the exception of the Grade 9 females. However, if males were using interruption as a tool for the domination and control of women, then the males should have produced the majority of interruptions and the females should have been interrupted more by their male than by their female partners. This was not the case.

The similar interruption behavior in dyads of different sex composition found in the present study does not necessarily imply an equal contribution of interruption by both participants in the interaction. A great deal of empirical work exists to support a symmetrical distribution of interruptions in same-sex interaction and an asymmetrical dis-

tribution in crossed-sex interaction, whereby males interrupt females significantly more than females interrupt males (e.g., Argyle et al., 1968; Esposito, 1979; McCarrick et al., 1981; McMillan et al., 1977; Natale et al., 1979; Octigan & Niederman, 1979; Peterson, 1986; West, 1979; West & Zimmerman, 1983; Willis & Williams, 1976; Zimmerman & West, 1975). However, in our examination of same-sex interaction, asymmetry in interruption behavior existed in both male and female same-sex dyads, a finding consistent with Dindia's (1987) research. In cross-sex interaction, we found that, although asymmetry existed, males interrupted females as frequently as females interrupted males. Far fewer studies (Beattie, 1981; Dindia, 1987; Kennedy & Camden, 1983) have found such similar interruption behavior between males and females in opposite-sex interaction. It is important to note, however, the similarity between the issues that Beattie (1981) and Dindia (1987) addressed and the concerns of the present study. For instance, Beattie stressed the importance of classifying interruption into its various forms, and Dindia argued for the use of proper statistical techniques.

The failure by sex to predict frequency of interruption in opposite-sex interaction was also found in all three age groups. One could hypothesize that if children begin to learn the sex-associated use of interruption from a very early age, then men would interrupt women more than boys interrupt girls. However, symmetry was revealed at Grades 4 and 9 and the college level when male interruption of females and female interruption of males was examined.

Sex also did not predict whether interruption behavior was successful or not. In the present study, butting-in interruption was considered an unsuccessful interruption, whereas simple, overlap, and silent interruption were considered successful interruptions. Males and females produced all four interruption types with similar frequency; hence females were as successful at interruption as males were, and males failed to succeed at interruption as often as did females.

In summary, the present study provided little support for a sex-related difference in interruption behavior. Our findings also appear inconsistent with claims that males believe females to be more interruptable than they are and that what females have to say is less important than what males have to say. The males in our study did not appear to use interruption as a tool to maintain status.

There are a number of reasons why we did not find sex differences in interruption behavior whereas many other studies have. The most important reason, we believe, lay in our attempt to address the limitations of previous work. Of the four limitations outlined in the introduction, we feel that the use of Ferguson's (1977) classification system and of proper statistical techniques played the major role in our findings. We did not merely treat interruption as a unitary phenomenon or as a conversational device that reflects dominance and control; rather, we used a well-defined and objective definition of interruption. Interestingly, in the only other study, to our knowledge, in which this classification system has been used (Beattie, 1981), no evidence was found for sex differences in interruption behavior. Most of the research that finds sex differences in interruption has used the Zimmerman and West (1975) definition. In addition, the Kraemer-Jacklin procedure was implemented, which made it possible to examine sex of respondent and sex of partner effects along with their interaction, while controlling for between-partner correlation. However, the majority of past work in this area failed to mention the unit of analysis examined, and one has to assume that the assumption of independent observations was not violated. Interestingly, in the only other study in this area in which the Kraemer-Jacklin procedure was used, that of Dindia (1987), no evidence was found for sex differences in interruption behavior.

Because of the large number of studies that claim that sex differences exist in interruption behavior, it is easy to understand why researchers have drawn micropolitical interpretations. However, due to the methodological and statistical shortcomings of most of this work, we must be extremely wary of accepting the conclusions that have been drawn.

It is also interesting that there was little in the way of developmental change in interruption behavior. For instance, the frequency of interruption and the types of interruption used in dyadic conversation were not different in Grade 4, Grade 9, or college. It was obvious that the adult pattern of interruption frequency in dyadic conversation is acquired very early.

In conclusion, our findings indicate that wholesale acceptance of sex differences in interruption behavior, and its micropolitical interpretation, is not warranted. Interruption is most likely influenced by many personality and social variables, which probably change across

different situations and contexts (see, for instance, Natale et al., 1979; Rim, 1977). To obtain a comprehensive understanding of interruption behavior, future researchers must determine what factors influence interruption. Only then, when we know why an individual interrupts, will we be able to say with any certainty whether a micropolitical interpretation is appropriate.

NOTES

1. The interruption behavior of friends was examined (versus some other form of relationship) because we were interested in the interruption pattern typical of everyday conversation. Because we spend a great deal of the day with "friends," how we use interruption in this situation should tell us much about this conversational technique. Furthermore, the most widely cited study on interruption patterns (Zimmerman & West, 1975) involved primarily discussions among friends.

2. The conversational topics were chosen such that most students would be expected to have some opinion or comment, thereby generating conversation.

3. If a speaker waited more than 1 second to begin his or her turn after the original speaker stopped, the instance was not scored as an interruption.

4. Because multiple tests were conducted, caution should be used when interpreting the results.

5. It is not appropriate to use the Pearson product moment correlation coefficient with same-sex dyads.

6. Although 4 of the 12 analyses involved independent data, the Kraemer-Jacklin (1979) procedure was used with all 12 to assist comparison and interpretation.

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