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Influence and Involvement in Children's Discourse: Age, Gender, and Partner Effects

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LEAPER, CAMPBELL. *Influence and Involvement in Children's Discourse: Age, Gender, and Partner Effects.* CHILD DEVELOPMENT, 1991, **62**, 797–811. Children's discourse with peers was examined in relation to speaker gender, partner gender, and age level. 138 children were matched with either a same- or an other-gender peer at the early childhood and middle childhood age levels (median ages = 5 and 7 years) and asked to play with puppets for 10 min. Speech acts were coded as either collaborative (affiliative involvement and direct influence), controlling (distancing involvement and direct influence), obliging (affiliative involvement and nondirect influence), or withdrawing (distancing involvement and nondirect influence). Girls' and boys' communication patterns were more similar than different. However, gender-related differences with medium to large effect sizes were found. Gender-typed communications were more likely at the middle childhood than the early childhood age level and in same-gender than mixed-gender dyads. The findings are interpreted in terms of developmental and contextual accounts of gender and social behavior. Recommendations for future research are offered.

The objective of the present study was to examine the development of gender-related differences in children's peer communications. Peer interactions are considered highly influential contexts for modeling and enforcing gender norms for social interaction (Carter, 1987; Fagot, 1977; Hartup, 1983; Huston, 1983; Maccoby & Jacklin, 1987; Thorne, 1986).[1] Boys' interactions are commonly oriented around independence, competition, and dominance. In contrast, girls' interactions are generally based on closeness, cooperation, and interpersonal harmony (e.g., Lever, 1976; Maltz & Borker, 1982; Miller, Danaher, & Forbes, 1986; Stoneman, Brody, & MacKinnon, 1984; Winstead, 1986). It appears that whereas both girls and boys try to influence others, girls are more likely than boys to pursue their interests while also maintaining interpersonal harmony (Miller et al., 1986; Serbin, Sprafkin, Elman, & Doyle, 1984; Sheldon, 1990). These differences are reflected in girls' and boys' communication styles (Austin, Salehi, & Leffler, 1987; Cook, Fritz, McCornack, & Visperas, 1985; Haslett, 1983; Levin & Hunter, 1982; Miller et al., 1986; Sachs, 1987; Serbin et al., 1984; Sheldon, 1990; Tannen, 1990a). Girls are more likely than boys to deploy language strategies that

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[1] The word *gender* is used in the present paper to refer to one's assignment as either female or male. The use of the word *sex* is considered by many to suggest biological explanations for male-female differences (e.g., Unger, 1979), while the term *gender* is considered to be more neutral. Accordingly, this paper uses the terms *gender, gender role,* and *gender-typed,* rather than *sex, sex role,* and *sex-typed,* respectively.

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demonstrate attentiveness, responsivity, and support. In contrast, boys use more strategies that demand attention, give orders, and establish dominance (see Maltz & Borker, 1982; also see Aries, 1987; West & Zimmerman, 1985, for reviews of analogous differences in adults' language).

Gender differences in interpersonal style have been observed as early as 3 years of age (e.g., Haslett, 1983; Jacklin & Maccoby, 1978; Sheldon, 1990). While preschool boys tend to use more direct and demanding communicative strategies with their peers, preschool girls typically use more polite and cooperative strategies (Black & Hazen, 1990; Camras, 1984; Haslett, 1983; Sachs, 1987; Serbin et al., 1984; Sheldon, 1990). These differences emerge at the same age that children are beginning to demonstrate both gender identity (Kohlberg & Zigler, 1967) and preferences for same-gender playmates (Maccoby & Jacklin, 1987).

There are continuing trends in these directions between the ages of 3 and 7 years. By the age of 7, children have acquired gender constancy (Kohlberg & Zigler, 1967) and knowledge of gender-role stereotypes (Huston, 1983; Martin, 1989). Changes are also seen in children's social behavior. During the shift to middle childhood, interaction strategies become more gender-differentiated (e.g., Camras, 1984). While girls become increasingly more competent in the use of collaborative strategies, boys remain relatively unchanged in their reliance on domineering influence strategies (Austin et al., 1987; Camras, 1984; Serbin et al., 1984; Tannen, 1990a). These differences reflect boys' greater adherence to role-consistent behavior during early and middle childhood (see Huston, 1983). Thus, boys can be expected to use domineering strategies more than girls during both early and middle childhood. However, given that collaborative strategies increase with age (Howes, 1988), gender differences in their use may be more likely in middle than early childhood.

Another shift that occurs between early and middle childhood is a dramatic reduction in cross-gender affiliations (Gottman, 1986). Given children's preference for same-gender peer affiliations, relatively few studies have contrasted both same- and mixed-gender peer interactions during the school years (Hartup, 1983). To do this, researchers usually have had to arrange the mixed-gender interactions themselves. These efforts have ranged from conventional one-time laboratory or semi-naturalistic studies (Haas, 1981; Miller et al., 1986; McCloskey, 1987) to long-term interventions aimed at increasing mixed-gender interactions over time in schools (Bianchi & Bakeman, 1978, 1983; Serbin, Tonick, & Sternglanz, 1977). Findings from the intervention studies show that sustained cross-gender interactions can lead to reduced gender-typed attitudes and behaviors in both girls and boys. However, the laboratory and semi-naturalistic studies suggest that the impact of mixed-gender interactions on gender-typed behavior may be greater for girls than boys. For example, boys have been found to be less responsive to girls' polite influence attempts (Jacklin & Maccoby, 1978; Maccoby, 1990; Miller et al., 1986; Serbin et al., 1984). Perhaps as a consequence, it has been observed that girls will display domineering interactional strategies (e.g., threats or demands) with boys but generally are not inclined to use these strategies with other girls (Goodwin, 1980; Haas, 1981; McCloskey, 1987; Miller et al., 1986; Sgan & Pickert, 1980). Thus, gender-related differences in interaction may depend on partner gender as well as subject gender. If so, further support would be found for social-constructionist interpretations of gender-related differences in interpersonal behavior (Deaux & Major, 1987; Eagly, 1987; Winstead, 1986).

Discourse Strategies and Patterns

Since language both reflects and creates gender divisions (Graddol & Swann, 1989), examining children's language behavior is an effective way to study gender-related differences in peer interaction. One approach to analyzing language is to look at the social or pragmatic functions of linguistic messages, known as *speech acts* (Garvey, 1984). For the present study, a two-dimensional coding scheme was used that classifies speech acts by their degrees of *influence* and *involvement*. Influence refers to the extent that a message is either direct (i.e., assertive) or nondirect. Involvement refers to the extent that a message is either affiliative (i.e., responsive) or distancing. A speech act can be affiliative and direct, which is called a *collaboration;* affiliative and nondirect, which is called an *oblige;* distancing and direct, which is called a *control;* or distancing and nondirect, which is called a *withdrawal.* Collaborative speech acts (e.g., "Let's play store" or "I'll help you with that") are similar to the responsive and supportive dis-

TABLE 1

TWO-DIMENSIONAL ARRANGEMENT OF PSYCHOSOCIAL PROCESSES CODING SCHEME WITH DEFINITIONS AND EXAMPLES

INFLUENCE		Distancing	Affiliative
	Direct	CONTROL	COLLABORATE
		Rejecting the other ("You jerk")	*Mutual affirmation* ("I like playing with you")
		Commanding the other ("Don't do that")	*Constructive elaboration* ("I'll help you with that")
		Countering the other ("That's not right")	*Initiating joint action* ("Let's play superheroes")
		Resisting the other ("Why not?")	*Exploring the situation* ("This is a puppet")
	Nondirect	WITHDRAW	OBLIGE
		Evading the other ("What's that noise?")	*Going along with the other* ("Sure, let's do that")
		Delaying participation ("Uh, um, um")	*Request action or information* ("What do you want to do?")
		Reluctant submission ("I don't care")	*Willing submission* ("Never mind, let's do that")
		Nonparticipation (a long silence)	*Seeking support* ("I need your help")
		INVOLVEMENT	

NOTE.—Definitions and examples for the control, collaborate, withdraw, and oblige speech act codes are presented. They are arranged according to their levels of involvement and influence. Involvement is represented as the horizontal dimension. The left column includes distancing speech acts (control and withdraw), while the right column comprises affiliative speech acts (collaborate and oblige). Influence is represented as the vertical dimension. The top section includes direct speech acts (control and collaborate), while the bottom section comprises nondirect speech acts (withdraw and oblige).

course strategies typically associated with girls more than boys. In contrast, controlling speech acts (e.g., "Don't do that" or "You jerk") are similar to the domineering and distancing strategies usually associated with boys. The two-dimensional arrangement of the speech act codes and examples of each are presented in Table 1. More elaborate definitions are provided in the Method section.

In addition to looking at the incidence of individual speech acts, researchers have also considered the functional relations, or conversational coherence, between children's speech acts (e.g., Boggs, 1978). This includes looking at speech act *exchanges*, which are two continguously linked speech acts between speakers (Garvey, 1984). Analyzing exchanges has the added benefit of taking into account both *when* speech acts occur and *how often* they occur. Groups may demonstrate a given speech act with equal frequency but differ in the sequential patterning of the speech act. For example, obliging speech acts may have a somewhat different function in a control-oblige sequence than in a collaborate-oblige sequence. The first sequence suggests a dominant-submissive relation, whereas the second indicates mutual agreement. The microanalysis of conversational exchanges addresses one important aspect of how interactions are negotiated over time. These analyses also can reveal some of the different ways that children relate to each other (see Gottman, 1983, 1986).

Two types of speech act exchanges were analyzed in the present study, *cooperation* and *dominance*. Exchanges that indicate mutual cooperation between the speakers include those in which one speaker's collaborative or obliging speech act is either preceded or followed by the other speaker's collaborative or obliging speech act. Cooperative communication patterns such as this have been reported to be more common for

TABLE 2

EXAMPLE OF COOPERATIVE EXCHANGES

	Child	Utterance	Code
1	Jennifer	Let's go play on the slide	**CB**
2		((sliding noises))	**CB**
3	Sally	Okay	**OB**
4		((sliding noises))	**CB**
5		I'll do a choo-choo train with you	**CB**
6	Jennifer	Okay//	**OB**
7	Sally	[You can go first]	**CB**
8	Jennifer	Ch ((gasp))//	**CB**
9	Sally	[Ch ((gasp))]	**CB**

NOTE.—CB = collaborate; OB = oblige. The children's names have been changed. Both girls are 7 years old and are from the middle-childhood age level. Speech act codings appear in bold letters next to each message. The following transcription conventions were used: Double slashes indicate the point where one speaker has been interrupted by the other speaker. Brackets indicate the part of a speaker's utterance that overlapped the other speaker's talk. Double parentheses refer to descriptions of voice tone, sounds, or context.

girls than boys (Maltz & Borker, 1982). An example of a cooperative exchange appears in Table 2.

Exchanges that illustrate the dominance of one speaker over another include those in which one speaker's controlling speech act is either preceded or followed by the other speaker's withdrawing or obliging speech act. Domineering communication patterns like this have been found to characterize the interactions of boys more than girls (Maltz & Borker, 1982). An example of a domineering exchange is presented in Table 3.

TABLE 3

EXAMPLE OF DOMINEERING EXCHANGES

	Child	Utterance	Code
1	Andy	Mm, I don't like this	**WD**
2	Patrick	((4 sec of silence))	**WD**
3		((coughs and laughs))	**WD**
4	Andy	Do this	**CN**
5	Patrick	((4 sec of silence))	**WD**
6	Andy	Do this	**CN**
7	Patrick	I wish I could go ((unintelligible))	**WD**
8	Andy	Do this	**CN**
9		Kick your chair ((kicking sounds))	**CN**
10		Kick your chair!	**CN**
11	Patrick	I can't	**WD**
12	Andy	Mm huh ((sigh))	**WD**
13	Patrick	((7 sec of silence))	**WD**

NOTE.—WD = withdraw; CN = control. The children's names have been changed. Both boys are 5 years old and are from the early childhood age level.

Hypotheses

In order to investigate the development of gender-related differences in children's discourse strategies, the interactions of children playing with either a same- or an other-gender peer were studied at both the early childhood (median age = 5 years) and the middle childhood (median age = 7 years) age levels. The hypotheses for the study are summarized below.

Given that girls have been found to demonstrate more mutual coordination, responsivity, and elaboration in their conversations (Austin et al., 1987; Black & Hazen, 1990; Tannen, 1990a), the female pairs were expected to use more affiliative speech acts (collaboration and oblige) and demonstrate more cooperative exchanges compared to male pairs. In contrast, since boys have been observed to be more demanding and domineering in their interactions than girls (Levin & Hunter, 1982; Miller et al., 1986; Sachs, 1987; Serbin et al., 1984), the male dyads were hypothesized to display more controlling speech acts and more domineering exchanges than the female dyads.

The manifestation of gender-related differences in language behavior was expected to interact with age level. Given the increases in children's cognitive understanding of gender during early childhood (Huston, 1983), gender differences in discourse strategies were hypothesized to be more likely at the older than the younger age level. Furthermore, based on reports that boys are more concerned with adhering to

role-consistent behaviors than girls (Huston, 1983), the male dyads were hypothesized to be more likely to use controlling and domineering strategies and less likely to display collaborative and cooperative strategies with age compared to the female dyads.

The last set of hypotheses are based on findings that cross-gender interactions are associated with reduced gender-typed behaviors and increased cross-gender-typed behaviors—especially in girls (Huston, 1983). Girls were hypothesized to display more affiliative and fewer distancing strategies in same-gender than in mixed-gender dyads. Boys were predicted to be less likely to be affected by partner gender than girls, but any differences would be expected in the direction of more affiliative and fewer distancing speech act strategies during mixed-gender than same-gender interactions.

Method

Sample

The sample consisted of 138 mostly white, mostly middle-class children from a private, university-affiliated elementary school. Classrooms at this school represented the combination of two grade levels typically associated with other school systems. Children from two levels were used: a sample from the early childhood level included 88 children, whose ages ranged from 3-11 to 6-4 (median = 5-3). A sample from the middle childhood level included 50 children, whose ages ranged from 5-11 to 8-9 (median = 7-0).

Children were matched to be in either an all-male, an all-female, or a mixed pair. Matches were made with children from different classrooms at the same grade level and close to one another in age (median age difference = 4 months). Although children from different classrooms were familiar with one another, it was reasoned that matching students from different classrooms would better control for the greater ranges in social status likely found within classrooms. The early childhood age level included 15 male dyads, 14 female dyads, and 15 mixed dyads. The middle childhood age level included eight male dyads, eight female dyads, and nine mixed dyads.

Data Collection

To control for the possible confound of researcher gender, a female and a male researcher were both present when meeting and giving directions to each dyad. The two children were seated at a table facing one another. Each child had a lavalier microphone attached to her or his shirt and was given an identical panda bear puppet. The researchers asked the children to play with the puppets together for 10 min and then left them alone together in the room. After 10 min had elapsed the researchers returned, talked briefly with the children about their play, and then returned them to their classrooms.

Transcription

The audiotaped interactions were transcribed using the conventions described by West and Zimmerman (1985). It took approximately 6–8 hours to transcribe each taped 10-min interaction. Each transcript was reviewed by a second transcriber for accuracy. Prior to coding, the transcripts were segmented into message units. Message units were individual speech acts, or utterances, bounded by their intonation contour. These included single sounds, sentence fragments, and complete sentences. Silences were also noted. Although reliability for segmenting message units was not assessed for the current study, subsequent projects using the same procedure have found that agreement exceeds 93%.

Speech Act Codes

The Psychosocial Processes Coding Scheme, derived from Penman's (1980) coding categories, classifies speech acts in terms of their degree of *influence* and *involvement*. The influence dimension refers to the extent that a message asserts the self and directly influences the other (*direct*) versus downplays the self and does not directly influence the other (*nondirect*). The involvement dimension refers to the extent that a message moves the speaker closer to the other (*affiliative*) versus separates the speaker from the other (*distancing*). Each message unit was classified into one of 16 mutually exclusive and exhaustive codes. In order to better identify frequently occurring patterns, these codes were later reduced to the four broader categories, described below and also summarized in Table 1.

Collaboration.—This category refers to speech acts that are direct and affiliative. It includes the following: (*a*) making an initiation that invites the other to move closer ("Let's play store"); (*b*) exploring a situation by informing, making a suggestion, or approaching the task ("This is a puppet"); (*c*) mutually affirming self and other through acceptance, affection, or amusement ("I like

playing with you"); and (*d*) contributing constructively to the interaction by affirming, cooperating with, or expanding upon the other's action ("I'll help you with that").

Control.—This category refers to speech acts that are direct and distancing. It includes the following: (*a*) rejecting the other through denigration or displays of hostility ("You jerk"); (*b*) taking over the interaction by ordering, manipulating, or challenging ("Don't do that"); (*c*) countering the other by defiance, refutation, or disruption ("That's not right"); and (*d*) resisting the other by defending one's position, showing skepticism, or questioning as a way of nonacceptance ("Why not?").

Oblige.—This category refers to speech acts that are affiliative and nondirect. It includes the following: (*a*) seeking involvement from the other by requesting information, action, or confirmation, or by allowing the other to start ("What do you want to do?"); (*b*) going along with the other by willingly accepting the other's proposal ("Sure, let's do that"); (*c*) abrogating one's position in order to maintain involvement by deferring to the other, giving up responsibility, or avoiding potential conflict ("Never mind, we can do that"); and (*d*) dependently merging with the other by fully accepting or seeking manipulation ("I can't do it without your help").

Withdraw.—This category refers to speech acts that are nondirect and distancing. It includes the following: (*a*) evading the other by not responding, changing the topic, or being vague ("What's that noise outside?"); (*b*) abstaining from participation by being indecisive or using delaying tactics ("Uh, um"); (*c*) abandoning one's position by unwillingly allowing the other to take over or showing sudden disinterest ("I don't really care, whatever you want"); and (*d*) removal from the interaction by refusing to participate, ignoring the other, or expressing statements of disinterest ("I'm bored with this"); silences longer than 3 sec were considered unresponsive and were typically counted in this category.

Coding

The transcripts were coded by two females (research assistants) and one male (the author). Coders simultaneously read the transcripts and listened to the audiotaped conversation to provide the coders with the additional meanings offered in each speaker's voice tone. In this regard, judgments pertaining to the speaker's intent were made. For example, a manifestly collaborative speech act expressed with a hostile tone was coded as a controlling act. Each transcript took approximately 2–3 hours to code.

Reliability

Training in the coding scheme was carried out by first having each person independently code the same transcript. This was followed by a joint meeting to compare codings and discuss discrepancies. This procedure was repeated with several transcripts until adequate agreement was reached. A transcript of a mixed dyad with 240 message units was used to assess intercoder agreement for the four speech act categories. Kappa coefficients (Cohen, 1960) were .60 for collaborative acts, .71 for controlling acts, .63 for obliging acts, .73 for withdrawing acts, and .66 overall (all p's $< .001$). Kappa values in this range reflect "good" to "excellent" levels of agreement (Fleiss, 1981).

Results

Design

Two × 3 multivariate analyses of variance (MANOVAs) were performed using age level (early or middle childhood) and dyad type (female, male, or mixed) as between-group factors. Least-square means were used in the comparisons due to the unbalanced design. Subsequent analyses of variance (ANOVAs) were carried out when a significant effect was indicated in a MANOVA.

Additionally, when a significant dyad effect was found with either a speech act or an exchange, separate scores were computed for each partner in the mixed dyads. These scores were compared using partner gender as a factor in a repeated-measures ANOVA with the mixed dyads only. This analysis was carried out in order to consider partner gender effects on gender-typed communications. For example, if mixed dyads and male dyads differ on a given behavior and no within-group gender difference is found in the mixed dyads, then it is possible to conclude that there was a partner gender effect for the males.

To assess the magnitude of all significant results, f indices of effect sizes derived from the correlation ratio eta for F scores (see Rosenthal & Rosnow, 1984) are presented. Cohen (1977) has suggested that effect sizes are "small" at .10, "medium" at .25, and "large" at .40.

Speech Acts

Proportion scores for each dyad's use of the collaborative, controlling, obliging, and

TABLE 4

MEANS AND STANDARD ERRORS FOR PROPORTIONS BY AGE LEVEL AND DYAD TYPE

	MEANS AND STANDARD ERRORS					
	Early Childhood			Middle Childhood		
	Male Dyads (N = 15)	Female Dyads (N = 14)	Mixed Dyads (N = 15)	Male Dyads (N = 8)	Female Dyads (N = 8)	Mixed Dyads (N = 9)
Speech act:						
Control	$.21_{a,b}$ (.03)	$.19_{a,b}$ (.03)	$.18_{a,b}$ (.03)	$.26_{a}$ (.04)	$.13_{b}$ (.03)	$.24_{a}$ (.04)
Collaborate	$.42_{a}$ (.03)	$.40_{a}$ (.03)	$.39_{a}$ (.03)	$.39_{a}$ (.04)	$.56_{b}$ (.04)	$.43_{a}$ (.04)
Exchange:						
Collaborate-Collaborate	$.25_{a}$ (.04)	$.21_{a}$ (.04)	$.20_{a}$ (.04)	$.21_{a}$ (.05)	$.42_{b}$ (.05)	$.24_{a}$ (.05)

NOTE.—Means with different subscripts in the same row are significantly different ($p < .05$). Standard errors are in parentheses.

withdrawing speech acts were computed based on the total number of dyad speech acts. These scores were adjusted using arc sine transformations due to the skewed distributions common with proportions, and then entered into a 2 × 3 MANOVA.

There was a significant age level × dyad type interaction in the MANOVA, $F(4,61) = 2.72$, $p < .04$, $f = .42$. A corresponding significant univariate effect was found with collaborative speech acts, $F(2,63) = 3.87$, $p < .05$, $f = .35$. As shown in Table 4, collaborative speech acts were significantly more likely in the older female dyads than in any other group (i.e., all younger dyads and older male and mixed dyads). This finding is consistent with the hypotheses that female dyads would use this speech act more than other dyads and that gender-related differences would be more likely at the older age level. Contrary to expectation, boys' collaborative speech acts were not more likely in mixed- than same-gender dyads.

There was also a trend associated with controlling speech acts, $F(2,63) = 2.41$, $p < .10$, $f = .28$. Planned comparisons, summarized in Table 4, indicated that the older female dyads used proportionally fewer of these speech acts than either the older male or older mixed dyads at significant levels. This finding is consistent with the hypotheses that male dyads would be more likely to use controlling speech acts and that gender-related differences would be more likely at the older age level.

A comparison of girls' and boys' separate proportion scores for controlling speech acts in the mixed dyads revealed no significant difference. Therefore, as expected, girls' controlling speech acts were more likely in mixed-gender than same-gender dyads.

Exchanges

Specific exchanges were identified as either cooperative or domineering. Cooperative exchanges included oblige-collaborate, collaborate-oblige, and collaborate-collaborate exchanges. Domineering exchanges included withdraw-control, oblige-control, control-withdraw, and control-oblige exchanges. Three types of indices were used to measure exchanges: exchange proportion scores, the z statistic used in lag-sequential analysis, and the Yule's Q measure of association.[2]

Proportion scores.—Proportion scores for each speech act exchange were computed based on the total number of dyad exchanges; these scores were adjusted using arc sine transformations. Separate 2 × 3 MANOVAs were carried out for cooperative and domineering exchanges.

[2] For exploratory purposes, separate 2 × 3 ANOVAs were performed on each of the remaining possible exchanges that were outside the purview of the present study's hypotheses. Only one other sequence indicated a significant effect. A main effect for age level was found for oblige-withdraw exchange proportion scores, $F(1,63) = 4.39$, $p < .05$. The pattern was less likely at the older age level.

Z *scores.*—Proportion scores indicate only how often a given exchange occurred and do not signify a conditional dependence. Therefore, two indices of sequential association were computed: the z and the Yule's Q statistics. The z statistic takes the transitional probability of a two-event sequence and adjusts it for the baseline probability of each event (see Bakeman & Gottman, 1986). When the analyses using the proportion scores revealed a significant effect for a given sequence, z scores corresponding to that sequence were computed using the Allison and Liker (1982) formula. A subsequent chi-square test revealed if the groups differed in the number of dyads with significant z scores associated with the particular exchange. If so, this indicated a difference across groups in the likelihood of this exchange having a sequential dependence.

Yule's Q scores.—The Yule's Q statistic (see Bakeman, in press; Kennedy, 1983) is a different measure of association. It reflects how strongly two events are associated with one another by providing values that range from -1 (negative association) to $+1$ (positive association). Unlike the z statistic, Yule's Q does not have a criterion for statistical significance; it is simply an index of the strength of association between events. Yule's Q scores are useful in order to test if groups differ in the magnitude of association for particular exchanges. Using z scores as data scores in inferential statistics like this would be inappropriate unless the z scores for all subjects are based on the same total number of events (see Bakeman, in press), which was not the case in the present research. Therefore, Yule's Q scores were entered in separate 2×3 MANOVAs for cooperative and domineering exchanges. However, there were no significant effects associated with any of these analyses. Consequently, only the findings from the analyses using the other two measures will be mentioned further.[3]

Cooperative exchanges.—A significant age level × dyad type interaction appeared in the MANOVA for cooperative exchanges, $F(3,62) = 4.31$, $p < .008$, $f = .46$. Univariate tests revealed the same interaction effect with collaborate-collaborate sequences, $F(2,63) = 4.47$, $p < .02$, $f = .38$. As summarized in Table 4, this type of exchange was more likely for the older female dyads than any other group. This finding supports the predictions that cooperative exchanges would be more likely among female dyads and that gender-related differences would increase with age.

The number of significant z scores associated with the collaborate-collaborate exchange did not differ across age and dyad type, $\chi^2(5) = 4.80$, N.S. Therefore, it would appear that the older female dyads' greater proportion of cooperative exchanges is due to the greater baseline probability of collaborative speech acts in this group.

There was also a significant main effect in the MANOVA for dyad type, $F(3,62) = 3.21$, $p < .03$, $f = .39$. A corresponding effect was found in the ANOVA with oblige-collaborate exchanges, $F(2,63) = 3.65$, $p < .04$, $f = .34$. As seen in Table 5, the male dyads demonstrated this pattern proportionally less often than either the female or the mixed dyads at significant levels. In order to test for within-group differences in the mixed-gender dyads, separate exchange scores were computed for each partner based on the proportions of male-to-female versus female-to-male oblige-collaborate exchanges. These scores were then compared using partner gender as a factor in a repeated-measures ANOVA with the mixed dyads only. This analysis indicated that female and male scores did not differ. Thus, it appears that boys were more likely to use this type of cooperative exchange with a female partner than a male partner. This supports the hypothesis that cross-gender-typed communicative behavior would be more likely in the mixed dyads.

The number of significant z scores per dyad associated with the oblige-collaborate exchange did not differ across the three dyad

[3] An earlier set of analyses with the same data did use z scores in ANOVAs (see Leaper, 1986). This method was advocated at the time (e.g., see Bakeman & Gottman, 1986), but was later found to be inappropriate (see Bakeman, in press). Nonetheless, the ANOVAs using the z scores revealed a pattern of results that were very similar to those reported in the present paper using the exchange proportion scores. The only other known study to use both Yule's Q and proportion scores as indices of exchanges (Leaper et al., 1989) found fewer significant effects using Yule's Q than sequence proportions. All of the effects associated with Yule's Q were paralleled by findings using the proportion scores. Given that Yule's Q reflects how strongly two events are associated rather than only their proportion of occurrence, it is a more conservative measure (see Leaper et al., 1989).

TABLE 5

MEANS AND STANDARD ERRORS FOR PROPORTIONS BY DYAD TYPE

EXCHANGE	MEANS AND STANDARD ERRORS		
	Male Dyads (N = 23)	Female Dyads (N = 22)	Mixed Dyads (N = 24)
Oblige-collaborate ...	$.07_a$ (.01)	$.10_b$ (.01)	$.10_b$ (.01)
Withdraw-control	$.04_a$ (.00)	$.02_b$ (.00)	$.01_b$ (.00)
Control-withdraw	$.05_a$ (.01)	$.04_{a,b}$ (.01)	$.03_b$ (.01)

NOTE.—Means with different subscripts in the same row are significantly different ($p < .05$). Standard errors are in parentheses.

groups, $\chi^2(2, N = 69) = 3.37$, N.S. Therefore, whereas oblige-collaborates occurred less often in the male dyads, it may be due to their overall less likelihood of using collaborative speech acts. In other words, it does not appear that obliging speech acts increased the likelihood of subsequent collaborative speech acts in the female and the mixed dyads more often than in the male dyads.

Domineering exchanges.—There was a significant main effect for dyad type in the MANOVA with domineering exchanges, $F(4,61) = 4.93$, $p < .002$, $f = .57$. This was associated with two corresponding significant univariate effects. One was with withdraw-control sequences, $F(2,63) = 6.52$, $p < .003$, $f = .45$. As expected, this exchange occurred proportionally more often in the male dyads than in either the female or the mixed dyads at significant levels (see Table 5). Similarly, a significant main effect for dyad type appeared in the ANOVA with control-withdraw sequences, $F(2,63) = 3.65$, $p < .04$, $f = .34$. As shown in Table 5, the male dyads demonstrated this exchange the most. The comparison tests revealed a significant difference with the mixed dyads; the difference with the female dyads approached significance ($p < .10$). Thus, as predicted, domineering exchanges were most likely to occur in the male dyads.

Follow-up ANOVAs were carried out using partner gender as a repeated measure to assess the relative contributions of the female and male partners to the withdraw-control and the control-withdraw proportion scores. No significant partner gender effects were found in these analyses. Therefore, as expected, boys were more likely to use domineering exchanges in same-gender than mixed-gender dyads. However, contrary to prediction, girls were not more likely to use domineering exchanges in mixed-gender than same-gender dyads.

When the incidence of significant z scores for the control-withdraw exchange was compared across dyad groups, there was no difference, $\chi^2(2, N = 69) = 1.92$, N.S. However, the male dyads were more likely to have significant withdraw-control sequences than the other groups, $\chi^2(2, N = 69) = 6.27$, $p < .05$. There were three male dyads and no female or mixed dyads whose z scores equaled or exceeded 1.96 ($p < .05$) for the withdraw-control exchange. Thus, it would appear that withdrawing speech acts were more likely to lead to controlling speech acts in the male dyads than in the female or mixed dyads. However, it should be emphasized that this association occurred at a significant level with only three (13%) of the 23 male dyads.[4]

Discussion

Prior to reviewing the observed gender-related differences in the children's discourse, it is worth noting that female and male dyads were more similar than different—a point that is often lost when gender groups are compared (Jacklin, 1981). For example, consider the finding that the

[4] When the criterion for z is lowered to 1.65 ($p < .10$), there are six (26%) of the 23 male dyads, two (8%) of the 24 female dyads, and 0 of the 22 mixed dyads indicating the withdraw-control sequence, $\chi^2(2, N = 69) = 7.83$, $p < .05$. Lowering the criterion z to 1.65 for the other exchanges did not change the results of the chi-square tests.

older female dyads used significantly more collaborative speech acts than the older male dyads. Collaboration accounted for 56% of the female dyads' speech acts and 39% of the male dyads' speech acts. Although the difference between the two groups is substantial (representing a medium effect size), there were frequent collaborative speech acts in the male dyads' talk. Indeed, collaborative speech acts and cooperative exchanges were the most common communication patterns for male, female, and mixed dyads at both age levels.

Similarities in conversational processes notwithstanding, differences between dyad groups were found that supported most of the hypotheses. Furthermore, when hypotheses were confirmed, the results indicated medium to large effect sizes. This is notable since many statistically significant gender-related differences are associated with small effect sizes (Jacklin, 1981).

The following findings can be summarized: First, whereas collaborative speech acts and cooperative exchanges were the most common discourse strategies in all dyad types, older female dyads used them proportionally more than any group; this reflected an increase with age in collaborative speech acts for female dyads but not for male or mixed dyads. Second, controlling speech acts were more likely in the male dyads than the female dyads at the middle childhood age level, and domineering exchanges were more common in the male dyads at both age levels. These results indicate that role-prescribed communication patterns (i.e., collaborative speech acts and cooperative exchanges in girls and controlling speech acts and domineering exchanges in boys) were more likely in same-gender than mixed-gender dyads, as expected. Furthermore, most gender-related differences occurred only at the middle childhood age level, which is consistent with the hypothesis that the likelihood of these differences increases with age. Finally, some cross-gender-typed communications were more likely in the mixed-gender dyads than in the same-gender dyads. For girls, this included a greater proportion of controlling speech acts in mixed dyads than in female dyads at the middle childhood age level. For boys, the oblige-collaborate cooperative exchange was more likely in the mixed-gender context.

The observed differences between the female and the male dyads may reflect group norms (see Maltz & Borker, 1982; Tannen, 1990a, 1990b). In particular, gender-differentiated communication patterns suggest how gender roles may be reflected by and developed through conversational routines. The interpersonal harmony associated with the feminine gender role was seen at the middle childhood age level when the female dyads used collaborative speech acts more often than the other dyads. For example, the series of exchanges presented in Table 2 illustrate how two 7-year-old girls responded to and elaborated upon one another's ideas in a mutually active and affiliative manner. In units 3–5, Sally not only affirms Jennifer's proposal to slide but she also asserts herself by elaborating on the scenario. In this respect, Sally is being both direct and affiliative. This type of interaction reflects the mutual cooperation that often has been found to characterize the discourse of young girls compared to boys (Haslett, 1983; Maltz & Borker, 1982; Miller et al., 1986; Pitcher & Schultz, 1983; Serbin et al., 1984; Sheldon, 1990). It also illustrates the pattern of contingent responding in relevant ways that is positively associated with social competence and peer status in both girls and boys (Asher, 1983; Dodge, Pettit, McClaskey, & Brown, 1986; Garvey, 1984; Gottman, 1983; Hazen & Black, 1989; Ladd, 1981).

Domineering exchanges were most likely in the male dyads at both age levels. Male dyads were therefore more distant and dominance oriented than female dyads. This is depicted in the example presented in Table 3. If conversation is defined as persons alternating between speaking and listening, then the withdraw-control exchanges associated with these male dyads indicate a breakdown in this process. Others have similarly found that boys act more often than girls as separate individuals who are in opposition to one another (Haslett, 1983; Maltz & Borker, 1982; Miller et al., 1986; Pitcher & Schultz, 1983; Stoneman et al., 1984). This interpersonal style is consistent with traditional socialization processes that emphasize separation and independence for males and closeness and interpersonal cohesion for females (Block, 1983; Chodorow, 1978; Gilligan, 1982; Huston, 1983; Leaper, Gleason, & Hirsch, 1990; Leaper et al., 1989). Furthermore, according to definitions of social competence as the ability to work collaboratively (e.g., Asher, 1983; Dodge et al., 1986; Garvey, 1984), the social interactions of the male dyads, on the average, appear less mature than those of the female dyads—

especially at the middle childhood age level. This idea dovetails with other findings of gender differences in behaviors related to social competence (Black & Hazen, 1990; Gottman, 1983; Hazen & Black, 1989; Howes, 1988; Selman, Beardslee, Schultz, Krupa, & Podorefsky, 1986). At the same time, it should be noted that all dyads were found to use collaboration more than any other type of speech act. Therefore, somewhat different impressions can result depending on whether one considers a given group's base rates for different behaviors or compares different groups' base rates for a given behavior: The male dyads often used collaborative speech acts, but they used them significantly less than the female dyads at the older age level.

As previously noted, gender-related differences were most likely at the older age level. This was due mostly to the age effects associated with female dyads' collaborative speech acts. This confirms other reports that gender differences in personality and social behavior in general (Archer, 1984; Block & Block, 1980; Huston, 1983; Maccoby, 1990; Whiting & Edwards, 1973) and supportive-responsive language forms in particular (Haslett, 1983; Pitcher & Schultz, 1983; Serbin et al., 1984) increase during the childhood years.

The likelihood of controlling speech acts or domineering exchanges in male dyads did not change between the early and the middle childhood years. Moreover, as previously noted, the magnitude of the actual dyad group differences in proportions was small. In contrast, other reports indicate that establishing dominance becomes increasingly more important during this age period (e.g., Maltz & Borker, 1982; Whiting & Edwards, 1973). Perhaps the establishment of these patterns had stabilized by the early childhood years (e.g., see Haslett, 1983; Pitcher & Schultz, 1983; Serbin et al., 1984). Another possibility is that more age differences for the boys would have been found had a different play context been considered. For example, Pellegrini and Perlmutter (1989) found gender differences in play behavior during construction play but not during dramatic play; the puppet play used in the present study typically involved dramatic play.

In addition to age level, partner gender also influenced speaker gender differences in communication. As hypothesized, gender-typed interactions were more likely with same-gender partners. This was found for boys' use of controlling discourse strategies and girls' use of collaborative strategies. Other researchers have similarly found a greater incidence of gender-typed communications in same-gender groups (Cherry-Wilkinson, Lindow, & Chiang, 1985; Goodwin & Goodwin, 1987; but also see Tanz, 1987, for a contrasting view). This result lends support to the idea that same-gender affiliations are an especially powerful context for gender-role socialization (Carter, 1987). In this regard, perference for same-gender friends has been positively correlated with children's gender-typed attitudes (Fagot, 1985) and communication style (Cherry-Wilkinson et al., 1985). Were girls and boys encouraged to play with one another, we might expect not only reductions in the incidence gender-typed communication patterns but also increases in the incidence of cross-gender-typed communications (e.g., more cooperative exchanges and fewer domineering exchanges from boys) as indicated by other studies (e.g., Bianchi & Bakeman, 1978, 1983).

There was some support for this contention in the present study. As expected, children's cross-gender-typed communications were more likely in mixed-gender than same-gender dyads. First, girls' controlling speech acts were more likely in mixed dyads than in female dyads. This finding is consistent with other reports that girls used more coercive strategies when with boys (Goodwin, 1980; McCloskey, 1987; Miller et al., 1986). Girls' greater proportion of controlling speech acts in mixed-gender settings may be related to findings that boys tend to ignore girls' polite (i.e., collaborative) influence attempts (see Maccoby, 1990; Serbin et al., 1984). Girls may find it necessary to use controlling strategies in order to influence boys.

Additionally, there was some tentative evidence that boys' cooperative communications were more likely in the mixed-gender setting. This occurred with the oblige-collaborate exchange. Although this is consistent with the notion that cross-gender interactions might facilitate cross-stereotyped behavior, it also seems to contradict reports that boys are equally likely to use power-assertive language strategies with female as well as male partners (e.g., Miller et al., 1986). Of all the cooperative exchanges, however, this is the one that most reflects dominance because it involves the sequencing of a nondirect or "low power" speech

act (oblige) followed by a direct or "high power" speech act (collaborate). Indeed, this type of pattern has been used by some communication researchers as an operational definition of dominance (Courtright, Millar, & Rogers-Millar, 1979; Ericson & Rogers, 1973). Thus, the present finding may suggest that boys are more likely to collaborate once their female partner has indicated her willingness to oblige. Coupled with the finding that boys' overall proportion of collaborative speech acts did not differ between the mixed and the male dyads, boys' greater incidence of oblige-collaborate exchanges in the mixed dyads may not signify greater cooperation in general. If so, it would seem that boys were less likely than girls to demonstrate cross-gender-typed behavior in mixed dyads, as predicted.

In conclusion, through the analysis of children's discourse patterns, the present study has pointed out ways that speaker gender, partner gender, and age level may be related to the development and manifestation of gender-related social relationships. Speech acts and exchanges were the chosen units of analysis here. Other methods can complement the present approach. These include coding entire turns, performing macro-codings of exchanges (e.g., see Gottman, 1983), or carrying out more qualitative discourse analyses (e.g., see Tannen, 1990a). In addition to using other methods of discourse analysis, researchers studying the development of gender-related communication style are advised to consider children at ages other than early and middle childhood. Very few studies have looked at gender-related communication during adolescence, even though this is an important period of change in gender roles (Archer, 1984), social relationships (Youniss & Smollar, 1985), discourse style (Dorval & Eckerman, 1984), and psychosocial functioning (Leaper et al., 1989).

One last recommendation for researchers studying the development of gender-related behavior is to address the importance of context (see Deaux & Major, 1987; Eagly, 1987; Winstead, 1986). As evident from the present findings, the extent of similarity or difference between girls and boys often depends on partner gender. Other important contextual variables that need further consideration include group size and setting. Girls typically prefer playing in pairs, while boys usually play in larger groups (Eder & Hallinan, 1978; Lever, 1976). Gender-typed behaviors may be more likely in group settings (Thorne, 1986). Therefore, comparisons of gender-related behavior in dyadic and group interactions are needed. Comparisons of different settings should be made as well. In the present study, the children's talk occurred during dramatic play with puppets. Different patterns of results may have been obtained during construction play (see Pellegrini & Perlmutter, 1989) or structured tasks (see Bearison, Magzamen, & Filardo, 1986; Charlesworth & Dzur, 1987). Further research in these directions will help uncover the ways that gender is constructed in social relationships.

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