

The relation of Japanese Children's pragmatic skills to parental discourse styles in triadic family interactions⁽¹⁾

Hiroko Kasuya • Kayoko Uemura*

Abstract

This study investigated the nature of conversational interaction in 9 Japanese mother-child-sibling and father-child-sibling triads, focusing on younger children's early acquisition of pragmatic skills and maternal and paternal interactive styles. The children focused on were 2;7 and the siblings were 5;5 on average. Discourse samples were collected while the children and the siblings were "playing store" with the mothers and "playing house" with the fathers at home. All parents' utterances were coded for their direction (the person whom the parents addressed) and speech act categories (Parental Regulating Behaviors, Questions, Responsive Behaviors, Information, and Other). All the children's utterances were also coded for direction and further categorized into three types of conversational turns (Initiate Topic, Join Topic, Continue Topic). Analyses revealed that in all the mother-children triads the mothers spoke to the children more often than to the siblings, whereas in the father-children triads five fathers spoke to the older siblings more often than the younger ones and all the children except one triad joined in father-sibling interactions more frequently than in mother-sibling ones. These findings suggest that the children seem to have their social skills challenged more with father-sibling triads than mother-sibling triads and the maternal and paternal differential roles regarding nurturing behaviors appear to be needed when the children are both of pre-school age.

子どもの会話スキルと母親・父親の対話スタイルの関係

*加須屋裕子・上村佳世子

(1) This research was funded by Japan Society for the Promotion of Science, Grant-in-Aid for Scientific Research C (2) grant number 13610156. An earlier version of this paper was presented at the 9th International Congress for the Study of Child Language, Madison, WI in July 2002.

Correspondence Address : Faculty of Human Studies, Bunkyo Gakuin University,
196 Kamekubo, Oimachi, Iruma-Gun, Saitama 356-8533,
Japan.

Accepted October 9, 2002.

Published December 20, 2002.

Key Words : triadic conversation, parental interactive styles, pragmatic skills, preschool children

Children construct their language systems on the basis of linguistic information available to them from their parents and people around them. A recent book, *Talking to Adults*, edited by Blum-Kulka and Snow (2002), presented this input issue while focusing on a new direction involving multi-party discourse. Generally, for instance, the parent is more knowledgeable, a source of nurturance, and the responsible party while the child is the learner and a seeker of nurturance. This simple description can be greatly complicated if a sibling enters the interaction—then the parent may need to differentiate her/his level of nurturance and style of interaction, and the siblings have their own issues of dominance, competitiveness in access to the parent, and potential for collaboration.

The few previous studies of multi-child contexts have reported that the presence of older siblings significantly changes mother-child interactions (Jones & Adamson, 1987; Woollett, 1986). For instance, the presence of older siblings reduces the number of mothers' utterances and their responsiveness to younger children and limits younger children's utterances. Furthermore, there are significantly more language interactions between mothers and older siblings than between mothers and younger children. These findings suggest that laterborns are exposed to different linguistic environments than firstborns.

Recently, it has been suggested that there may be positive effects associated with participating in multi-speaker interactive contexts, e.g., interactions with mothers, fathers, and siblings (Strapp, 1999; Mandle & Tomasello, 1987). A study by Dunn and Shatz (1989) provided naturalistic evidence that 2-year-old English-speaking children attended to and understood much of the conversations they overheard. The study focused on the younger siblings' utterances that were "intrusions" into the conversations between their mothers and older siblings. The researchers found that the younger siblings were quite capable of understanding conversations not directly involving them, as evidenced by their increasing ability to participate in the conversations. The increased length of triadic conversations may reflect a change in the dynamics of conversation when three as opposed to two people are involved.

Attention recently has been directed toward investigating the links between parental behavior and sibling relationships (Brody, Stoneman, & McCoy, 1992). Differences in parental behaviors toward siblings can play an important role in contributing to the children's developing social skills. Kojima's study (2000) determined the characteristics of Japanese mothers' regulating behaviors toward their two children and examined their

associations with children's behaviors directed toward their siblings. According to this study, the more frequently mothers played the role of mediator of communication between the siblings, the more frequently the older siblings positively interacted with their younger siblings. Mothers in families in which the younger sibling is still in an early developmental stage may tend to play a supplementary role in interactions between the siblings by using regulating behaviors. Forty sibling pairs participating in his study, however, were varied in terms of age and gender (e.g., same gender, mixed gender, order of gender). Consequently, relations of age variables and gender combination with maternal regulating behaviors and their effects on family structure did not appear to be clear.

Many studies conducted to date on parent behaviors and sibling relationships, however, have been confined to maternal measures (Brody, Stoneman, & Burke, 1987). It is conceivable that processes of influence involving fathers may be distinct because of the secondary care-giver role that the large majority of them assume in many societies including Japan. As a result of this secondary role, fathers quite possibly may assume an interactional style different from that of mothers. For example, Mannle and Tomasello (1987) make the argument that children talking to their fathers or siblings face different communicative challenges from those confronting them in conversations with their mothers. Our previous study on Japanese father-child interactions also found that the child was required to deal with a variety of the father's modes of communication (e.g., aggressiveness, unresponsiveness) and this interaction is one of the contexts which may function as a linguistic bridge to the outside world and thus promote child socialization (Uemura, Kasuya, Hamabe, 1999). Yet little is known about whether, when the fathers are fully in charge of their children, they interact with their two children in the same ways that mothers do.

Among a few studies involving triads with either parent, Brody, Stoneman, and McCoy (1992) investigated associations of maternal and paternal, direct and differential behavior during interactions with their children. The analyses revealed that mothers directed more positive behaviors to their children than did fathers. Both mothers and fathers directed more behaviors toward younger than older siblings. Mothers and fathers did not differ in the degree in which they treated older and younger siblings differently. Their results indicate that aspects of both maternal and paternal behavior are associated with relationship differences. Yet given gender differences in the style and quantity of parenting, it is possible that fathers' behavior may make a unique contribution to triadic interaction. In fact, Volling and Belsky (1992) found that facilitative and affectionate fathering was associated with prosocial sibling interaction.

Taking into consideration the above-mentioned research, the current study investigated

the nature of conversational interaction in 9 Japanese mother-child-sibling and father-child-sibling triads, focusing on younger children's early acquisition of pragmatic skills and maternal and paternal interactive styles.

Method

Participants. Nine Japanese families have participated so far in the study where observation started when the younger children were around 2;6 and was repeated every 6 months for two more times. Only same-sex sibling pairs (pairs of brothers at the first phase of the study and pairs of sisters at the second phase) were recruited, in order to control for gender effects. The comparative study of all possible sibling gender combinations would require a much larger sample, because the inclusion of relatively small numbers of sibling pairs in different gender combination cells has the potential for creating spurious results. The third year is of particular significance in the development of the child's interest in and understanding of others. According to this view, during the third year we might expect a change in the relevance and appropriateness of the child's participation in a conversation. The data used in the present study was drawn from discourse samples collected at Time 1 when the target children, all boys, were on average 31.1 (2;7) years old (range=30-32 months) and the older children, all boys, were 65.7 (5;5) years old (range=60-72 months) on average. The mother's average age was 35.3 years (range=30-43), whereas the father's average age was 37.6 years (range=29-44). In this study, the second-born child will be referred to as the child, and the first-born as the sibling.

Procedures. Triadic family interactions (mother-child-sibling and father-child-sibling) were videotaped for approximately 30 minutes each time while the children and the siblings were "playing store" with the mothers and "playing house" with the fathers at home. Toys used in the play were brought to their living rooms by the authors: we found them to be novel to the children and that they quickly became absorbed in playing with these toys. The parents were asked to interact naturally with their children. Many of the participants enacted "pretend play" such as buying and selling things using a cash register and cooking dishes on the stove. Respective periods of 10 minutes of mother-child-sibling and father-child-sibling interactions were used for the analyses in this paper.

Coding and analysis. All the discourse samples were fully transcribed and each transcript was divided into utterances based on intonation contours. All parents' utterances were coded for their direction (the person whom the parents addressed): younger child, older

sibling, or “other”, a category which includes both children, neither of them, self-directed speech, or unknown. On a second level of categories, they were further coded according to speech act categories to examine what kinds of parental discourse styles the children were exposed to while they were playing together. There are 4 major categories; 1) “Parental Regulating Behaviors” which include request, command, prohibition, or encouragement of the child’s action and verbal behaviors (e.g., push this button, give that to your brother, say thank you), 2) “Questions” which include simple yes-no and wh-questions (e.g., what’s this?, did you finish?, how much is this?), 3) “Responsive Behaviors” which include responding directly to children’s questions, commenting on what the children previously said, and repeating what the children said including back-channeling and evaluative expressions (e.g., yes, that’s right, sounds good, uh-huh, thank you, you did it well!), 4) “Information” which includes giving statements, information, or corrections (e.g., there is a purse here, this goes there, it’s all gone), and 5) “Other” which comes under none of the above categories and includes exact imitations, clarifying questions, sound effects, incomplete utterances, and unintelligible speech. Lastly, when the parent referred to triadic involvement among the above categories, it was coded for triadic encouragement (e.g., give it to your brother, let your brother use the stove next, take a turn) as a third level coding.

Like parents’ direction coding, all the children’s utterances were coded for direction: mother, father, sibling, or other. Then they were further categorized into three types of conversational turns: 1) Initiate Topic (when the child began a new conversation on a topic different from the previous one, or when the child took a conversational turn by interrupting others’ conversation with an unrelated comment), 2) Join Topic (when the child made a contribution to a topic already established by the mother, father, or sibling), and 3) Continue Topic (for none of the above, namely a child’s response or unknown function). The responses to the child’s utterances which were designated Initiate Topic and Join Topic were coded according to whether one of the two previous speakers answered the child directly or made reference to the child’s intrusion in the next speaker’s turn (Successful) or whether the intrusion was ignored (Unsuccessful). Similar analyses of siblings’ utterances were carried out but not reported in this study because we would like to focus on the younger children this time. Coding examples are shown in Example 1 (See Coding manual in Appendix 1). For purposes of reliability analysis, 20% of the transcripts were coded independently by two coders. Cohen’s kappas for parents’ direction and speech act categories were .84 and .74 respectively. Likewise, for children’s direction and turn types, Cohen’s kappas were .83 and .89.

Results and Discussion

Figure 1 shows how much the children talked in the triad with the mother and the triad with the father. Within the same period of time, the proportion of their verbal contribution in each family varied from 9.7% to 37.6%. There were only two children who talked relatively more in the triad with the father than in the triad with the mother. In other words, 7 children talked more or equally in the triad with the mother than in that with the father.

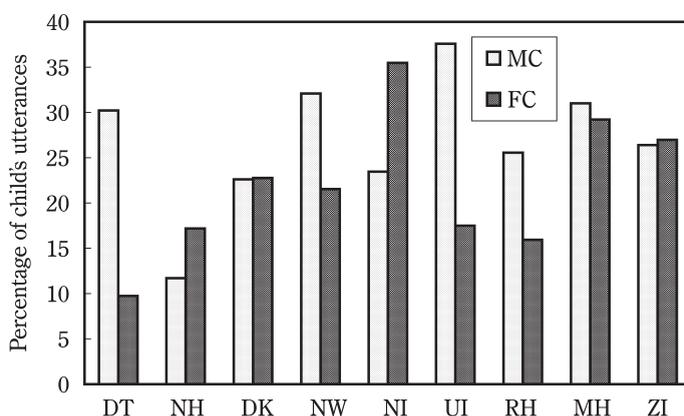


Figure 1 Proportion of child's utterances in each triad

It is obvious that the contributions of the other two participants were related to these results (see Table 1 in Appendix 2 for each participant's utterances in each triadic interaction), and particularly parental speech directed to the child sometimes played a significant role in encouraging the child to talk more. As seen in Figure 2-1, without exception, mothers' utterances directed to the children were proportionately higher (ranging from 51.3% to 73.8%) than fathers' utterances (ranging from 25.7% to 57.5%). Also Figure 2-2 indicates that in all the mother-children triads the mothers spoke to the children more often than to the siblings, whereas in the father-children triads five fathers spoke to the older siblings more often than the younger ones.

Maternal parenting behavior of addressing the younger child rather than the older sibling can be viewed as the nature of primary child-care and consequently this attitude may encourage the children's participation in the triadic interaction although the direction of this effect has not been clear. This result is inconsistent with the study of Brody, Stoneman, and McCoy (1992), where both mothers and fathers directed more behaviors toward younger than toward older siblings. Since their subjects (siblings' ages ranged from 6 to 11

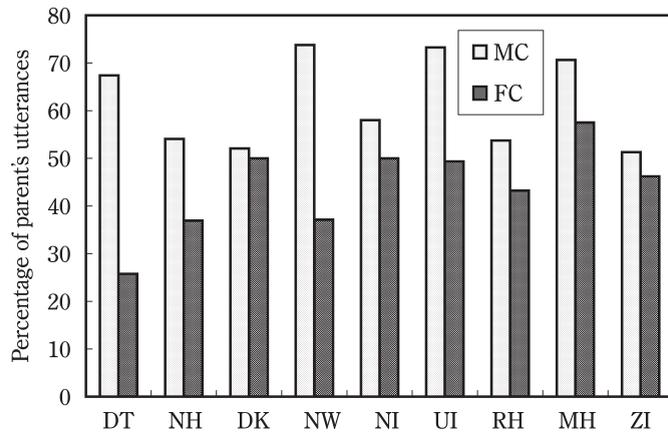


Figure 2-1 Proportion of parent's utterances directed to the child in each triad

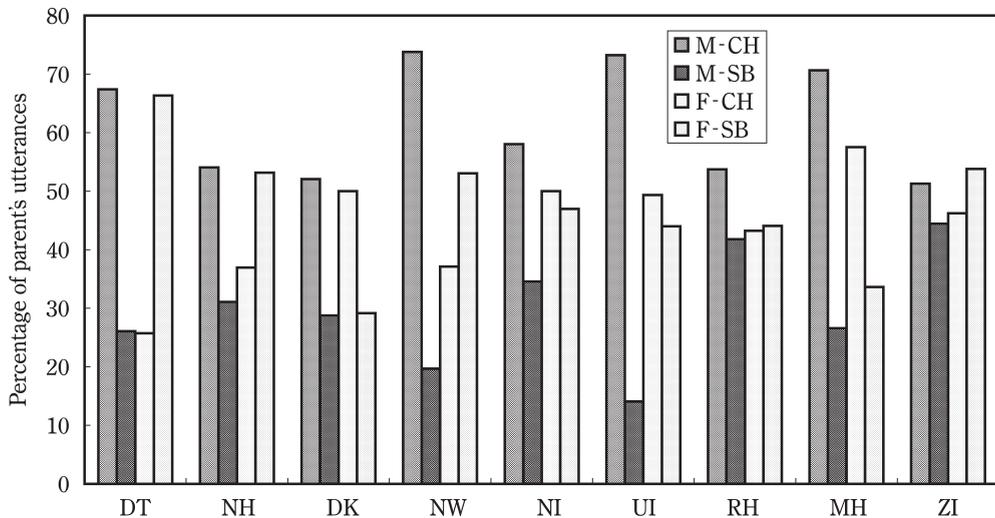


Figure 2-2 Proportion of parent's utterances directed to the child or sibling

and the younger children were from 4 to 9) were much older than ours (5-6 years old for siblings and 2; 7 for the younger children), the suggestion is that the maternal and paternal differential roles regarding nurturing behaviors appear to be needed when the children are both of pre-school age.

From the children's point of view, did they also address their mothers proportionately more than they did their fathers, similar to their parents behavior when addressing them? The answer is not absolute; 6 children had a higher proportion of utterances directed to the mothers than to the fathers but the differences were small. Rather, the proportion of children's utterances directed to the parents was much higher than of those directed to the

siblings. This is quite reasonable because of the immaturity of their social skills when playing with other children who may not be as responsive as their mothers.

Furthermore, Figure 3 shows that two thirds of children's proportionate utterances directed to the siblings were higher in the mother-children triads than in the father-children triads. This situation can be interpreted to indicate that the mothers provided a kind of socially friendly atmosphere which enabled the children to interact relatively more with the siblings, whereas the fathers seemed to provide a different kind of context, which will be explored next.

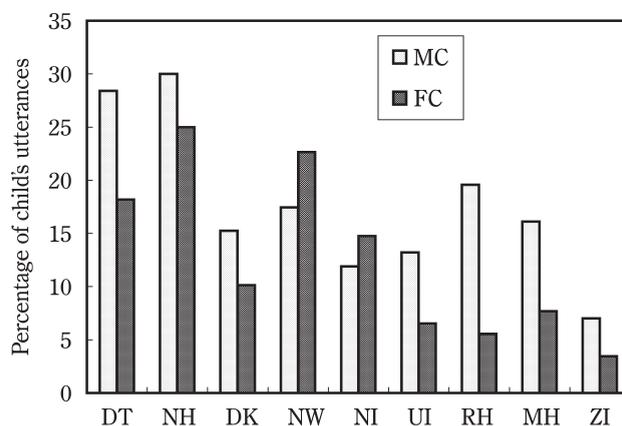


Figure 3 Proportion of child's utterances directed to the sibling in each triad

To examine how younger children practice pragmatic skills such as initiating a new topic to interrupt other's conversation with unrelated comments and joining ongoing conversational interactions between other persons, something simply not possible in dyadic interactions of any type, all the children's utterances were categorized into three conversational moves. Proportions of the child's initiations in the mother-children triad ranged from 1.7% to 24.6%, whereas those in the father-children triad ranged from 4.3% to 25.9%. Likewise, the percentage of the child's joining ongoing conversation was from 0% to 8.7% for the M-triad and from 1.6% to 18.2% for the F-triad (see Table 2 in Appendix 2). Figure 4 illustrates this finding more clearly with raw numbers. Many children seemed to have an opportunity to initiate a new topic or interrupt someone's conversation in order to get the parent's or sibling's attention though the numbers were still low. Two-thirds of the child's pragmatic attempts to initiate a new topic or interrupt other's talk were made in the father-children triad, more often than in the mother-children triad. More importantly, all the children except one tried to join in father-sibling interactions more frequently than or

just as frequently as with mother-sibling ones.

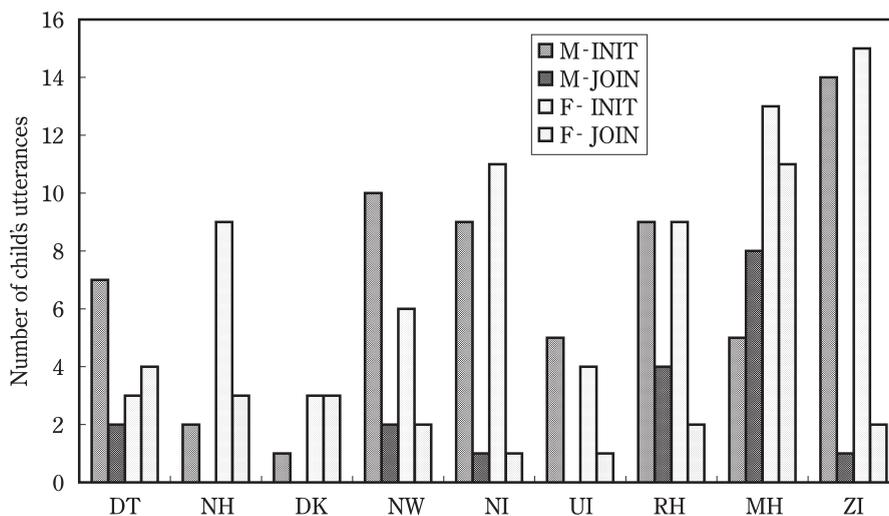


Figure 4 Number of child's conversational moves in each triad

This result seemed contradictory when considering parental language input where mothers provided a more nurturing environment but, as a matter of fact, it may be quite plausible that fathers gave a special training environment to their children. The child may have to exert himself more with the father or sibling and try harder to be understood as well as push himself to attract more attention from his parent when his sibling is present. These results suggest that the mother-child-sibling and father-child-sibling interactive contexts differ in important ways from each other and from the parent-child dyadic context.

Finally, the parents' interactive styles were assessed. As seen in Table 3 in Appendix 3, parental verbal behaviors varied individually. With fathers playing a secondary care-giver role, it was assumed that fathers' interactional styles would be different from mothers'. This assumption, however, was not quite proved since neither mothers nor fathers seemed to have specific patterns of verbal behaviors. Nevertheless, two-thirds of both mothers and fathers turned out to be relatively responsive to their children. This result implies that both parents were actively engaged in looking after their two children who still needed primary care but the parents let the children play relatively freely at the same time.

An example of this responsiveness is shown in Excerpt 1. The child interrupted the previous conversation between his mother and sibling (Line 4). The toy he wanted to describe was a cash register with a scanner which makes a sound like "pip pip". In

Japanese, people use a lot of onomatopoeia to describe objects, situations or conditions. The mother quickly responded to him (Line 5) but didn't seem to be sure what the child really meant because she offered a different thing to the child (Line 7). However, the child seemed to accept the camera which also can make a clicking sound. After that the mother kept herself responsive enough to let the child talk (Lines 9, 11, and 13) and finally praised him greatly (Line 15).

Excerpt 1 Responsiveness directed to the child in
Mother-Child-Sibling (RH) triad playing store

1SIB: What's this?
2MOT: Er, a box of curry powder.
3SIB: So put it in here and ...
4CHI: Ma, Mom, where is that toy making the sound "pip pip"?
5MOT: Huh, pip?
6CHI: Yeah.
7MOT: Is this the one (giving him a toy camera)?
8CHI: This is a picture thing.
9MOT: Right [>].
10SIB: I got it [<].
11MOT: It's a picture, isn't it?
12CHI: This is for Mom.
13MOT: Yeah.
14CHI: I take a picture of you good* (taking a picture).
15MOT: Really, good, thank you (stroking the child's hair).

[>]=overlap follows [<]=overlap precedes

*ungrammatical (=I'm taking a good picture of you)

Compare that with the following example of the father's responsiveness in Excerpt 2. The significant difference between the mother's and father's responsiveness in these excerpts is the person to whom they responded.

Excerpt 2 Responsiveness directed to the sibling in
Father-Child-Sibling (RH) triad playing house

1SIB: Well, what are we going to make, CHI?
2CHI: An apple (holding an apple).
3FAT: An apple, hmmm.
4FAT: What are YOU going to make then, SIB?
5SIB: Fried rice.
6FAT: Fried rice?

7SIB: Yeah.
 8FAT: Well, here is something, this paper tells you how to cook.
 (taking a piece of cardboard which explains how to play kitchen)
 9CHI: Watermelon (speaking to himself and holding a watermelon)
 10FAT: Watermelon?
 11CHI: 0 (trying to cut a watermelon).
 12FAT: This is fried rice (looking at the picture with SIB).
 13SIB: Wait.
 14FAT: OK.

0=actions without speech

In Excerpt 2, the father commented on what the child said to the sibling (Line 3) but didn't seem to pay attention to his behavior. Instead, the father was found to be willing to talk with the sibling more often (Lines 4, 8, and 12) than with the child, which is one of the results that has been reported on already. The child, who had been playing by himself since he was not able to read the recipe in the picture the father and sibling talked about (Line 8), spoke up about what he has been doing (Line 9) although his intention was not clear. He could have played by himself without trying to involve other people. The father's carefree attitude could rather make the child speak up to make his existence known. Luckily, he was responded to by his father (Line 10), but the child was not skillful enough to continue this conversation (Line 11). The father didn't continue it either and quickly turned to the sibling again (Line 12). Even though the rates of maternal and paternal verbal behavior are similar, fathers' behavior appears to have special significance for individual children who are at the stage of developing social skills. Brody, Stoneman, and McCoy (1992) propose that the prominent nature of paternal behavior in the eyes of the child may arise from the relative rarity of fathers' attention compared to that of mothers in everyday settings.

One of the characteristics of triadic interaction is that it offers an opportunity to give the children directives to get one of the children to perform some action related to the other child or to encourage sibling interactions. Table 4 in Appendix 3 presents the result of the proportions and raw numbers regarding this parental triadic encouragement. Overall the numbers are very low. Mothers tended to use this type of directive-giving (ranging from 0% to 9.1%) more than fathers did (ranging from 0% to 4.5%), but it is more accurate to say that this varies individually.

Excerpt 3 Triadic encouragement in Mother-Child-Sibling (MH) triad playing store

1SIB: It's 423 yen please.
2MOT: OK, he said 1423yen, so give it to him.
3CHI: Huh [$>$]?
4MOT: Here is the money (giving the money to the child) [$<$].
5MOT: Well, no, with this bill of 1500yen get some change from him, here it is.
6CHI: Here you are (giving the money to SIB).
7SIB: OK.
8MOT: Please give me change for that.
9SIB: Ah, thank you very much for exact change (putting the money in the cashier).
10MOT: Oh, exact change, huh (laughing)?!
11MOT: Well then, let's go home carrying this, CHI.
12MOT: Say thank you to him.
13CHI: Thank you (to SIB).

[$>$] = overlap follows [$<$] = overlap precedes

Excerpt 3 presents this triadic interaction. The mother referred to what the sibling said (Line 2) and had the child interact with the sibling (Line 5). Also she taught manners by having the child say "Thank you." (Line 12). The child was obedient and did what he was told to do (Lines 6 and 13). With this type of mother's scaffolding framework, even a younger child could feel as if he were actually performing a "pretend play" with the sibling.

Conclusion

In the present study analyzing the first set of data, children's pragmatic skills were found to be just on the verge of developing. We need to further explore the increase in the frequency of Join Topic utterances by examining the next data sets, 6 months and a year later, to support the argument that children after their third birthday become increasingly aware of others' interests and wishes and are quite good at contributing to an ongoing conversational topic, an ability which presumably requires comprehension of that topic. As can be seen from the relatively low frequency of conversational moves in this data set (Time 1), however, the child's participation in triadic conversations was possible but it seemed to be still in a beginning stage.

Nonetheless, all the children except one tried to join in father-sibling interactions more frequently than or just as frequently as with mother-sibling ones. The children seemed to have their social skills challenged more with father-sibling triads than mother-sibling

triads. Furthermore, all the mothers' utterances directed to the children were proportionately higher than the fathers'. Also in all the mother-children triads the mothers spoke to the children more often than to the siblings, whereas in the father-children triads five fathers spoke to the older siblings more often than the younger ones. These results suggest that the mother-child-sibling and father-child-sibling interactive contexts differ in important ways from each other and from the parent-child dyadic context.

The children in this study were required to deal with a variety of the mother's and father's modes of communication during free play when the sibling was present at his home. The importance of these triadic experiences and the skills they may foster is obvious: the child's ability to converse in a multi-speaker context is essential for successful communication in all kinds of family, peer, and school settings. Of course these findings are still speculative and must be fully supported by analysis of further data from such triadic interactions as those used in the current study.

References

- Blum-Kulka, S., & Snow, C. E. (Eds) (2002). *Talking to adults: The Contribution of multiparty discourse to language acquisition*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Brody, G. H., Stoneman, Z., & Bruke, M. (1987). Child temperaments, maternal differential behavior, and sibling relationships. *Developmental Psychology, 23*, 354-362.
- Brody, G. H., Stoneman, Z., & McCoy, J.K. (1992). Associations of maternal and paternal direct and differential behavior with sibling relationships: Contemporaneous and longitudinal analyses. *Child Development, 63*, 82-92.
- Dunn, J.F., & Shatz, M. (1989). Becoming a conversationalist despite (or because of) having an older sibling. *Child Development, 60*, 399-410.
- Jones, C. P., & Adamson, L.B. (1987). Language use in mother-child-sibling interactions. *Child Development, 58*, 356-366.
- Kojima, Y. (2000). Maternal regulation of sibling interactions in the preschool years: Observational study in Japanese families. *Child Development, 71*, 1640-1647.
- Mannle, S., & Tomasello, M. (1987). Fathers, siblings, and the bridge hypothesis. In K.E. Nelson & A. van Kleeck (Eds), *Children's Language. Volume 6* (pp.23-41). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Strapp, C.M. (1999). Mothers', fathers', and siblings' responses to children's language errors: Comparing sources of negative evidence. *Journal of Child Language, 26*, 373-391.
- Uemura, K., Kasuya, H., & Hamabe, K. (1999). Fushi sougokoushou ni okeru hatarakikake no sutairu (Conversational styles in father-child dyadic interaction). *Journal of Bunkyo Women's University, 1*, 63-76.
- Volling, B. L., & Belsky, J. (1992). The contribution of mother-child and father-child relationships

to the quality of sibling interaction: A longitudinal study. *Child Development*, 63, 1209-1222.
Woollett, A. (1986). The influence of older siblings in the language environment of young children. *British Journal of Developmental Psychology*, 4, 235-245.

Appendix 1

Coding Manual

Coding of parents' utterances

1. Direction of utterances: the person whom a mother or father addresses

C a child

S a sibling (an elder brother)

2. Speech Act: Functions of parents' utterances

:REG Regulating behavior—request, command, prohibition, or to have a child perform (or not perform) a certain behavior (e.g., Push this button, Cook dinner for me, Don't do it.)

:QUE Question—asking a wh-and Yes-No questions (e.g., What's this? Is this yours? Where is the lid?)

:RES Responsive behavior—responding to the children's questions, repeating or commenting on what the previous speaker said, back-channeling to encourage an ongoing conversation including evaluative expressions and emotional statements (e.g., Is that right? Really? Uh-huh. You did a good job.)

:INF Information—Statements, correction with expansion (e.g., There is a purse here. This goes there.)

:OTH Other—None of the above(e.g., exact imitation, clarifying questions, unintelligible speech, attention-getter, greetings, sound effects, incomplete sentences, laughing, and crying)

3. Triadic encouragement or reference

?:T Triadic encouragement or reference (e.g., Tell your brother to give it to you, have your younger brother do that next, say thank you to him)

Child's utterance coding

1. Direction of utterances: the person a child addresses

M: the mother

F: the father

S: the sibling

O: both the parent and sibling, neither of them (private speech), unknown

2. Conversational moves

INI: Initiate Topic when the child began a new conversation on a topic different from the previous one, when the child took a conversational turn by interrupting others' conversation with an unrelated comment, or when the child attracted others' attention

JOI: Join Topic when the child made a contribution to a topic already established by the mother, father, or sibling

CON: Continue Topic for none of the above, namely a child's response or unknown function

3. Success rate

:S Successful—the response to the child's Initiate Topic and Join Topic was coded when one of the two previous speakers answered the child directly or made reference to the child's intrusion in the next speaker turn

:U Unsuccessful—the response to the child's Initiate Topic and Join Topic was coded when the intrusion was ignored

Example 1: Coding sample

Coding

S:QUE FAT: Where are the chopsticks, SIB?

SIB: You mean chopsticks?

S:INF FAT: Yeah, I don't have any.

F:JOI:S CHI: I have one, here you are, this (giving the father a spoon).

C:RES FAT: Is this a chopstick, is this really?

SIB: It's a spoon, you know.

S:RES FAT: It's a spoon, you know.

F:CON CHI: A spoon.

SIB: Here is some rice (giving the father a toy bowl of rice).

S:RES FAT: Rice, thanks.

Appendix 2

Table 1 Parents' and children's utterances in MCB and FCB triads

	MCB Triads				FCB Triads			
	Mother	Child	Sibling	Total	Father	Child	Sibling	Total
DT	92	81	95	268	101	22	103	226
NH	74	20	77	171	111	44	101	256
DK	146	59	56	261	168	69	66	303
NW	122	86	60	268	132	53	61	246
NI	81	42	56	179	66	61	45	172
UI	71	53	17	141	150	46	67	263
RH	67	46	67	180	118	36	72	226
MH	143	93	64	300	113	78	76	267
ZI	117	57	42	216	119	58	38	215

Table 2 Number of child's conversational moves in each triad

	Mother-Child-Sibling Triad		Father-Child-Sibling Triad	
	Initiate Topic Success/N*	Join Topic Success/N**	Initiate Topic Success/N	Join Topic Success/N
DT	7/ 7 (8.6)***	2/2 (1.2)	1/ 3 (13.6)	3/ 4 (18.2)
NH	1/ 2 (10.0)	0	6/ 9 (20.5)	3/ 3 (6.8)
DK	0/ 1 (1.7)	0	2/ 3 (4.3)	2/ 3 (4.3)
NW	5/10 (11.6)	2/2 (2.3)	5/ 6 (11.3)	1/ 2 (3.8)
NI	9/ 9 (21.4)	1/1 (2.4)	6/11 (18.0)	1/ 1 (1.6)
UI	2/ 5 (9.4)	0	3/ 4 (8.7)	1/ 1 (2.2)
RH	5/ 9 (19.6)	2/4 (8.7)	9/ 9 (25.0)	2/ 2 (5.6)
HM	3/ 5 (5.4)	7/8 (8.6)	9/13 (16.7)	8/11 (14.1)
IZ	7/14 (24.6)	0/1 (1.8)	7/15 (25.9)	1/ 2 (3.4)

*Success/N=Number of successful utterances/Total number of child's initiations

**Success/N=Number of successful utterances/Total number of child's join topic

*** () =percentage of child's initiations or join topics

Appendix 3

Table 3 Proportion of parental speech act categories*

	Maternal behavior				Paternal behavior			
	REGUL	QUEST	RESPO	INFOR	REGUL	QUEST	RESPO	INFOR
DT	18.9	14.9	40.5	25.7	18.5	20.7	40.2	20.7
NH	31.2	18.8	29.7	20.3	28.0	29.9	29.9	12.1
DK	37.3	20.3	12.7	29.7	22.0	16.0	32.7	29.3
NW	26.9	36.5	15.4	21.2	32.4	18.5	25.0	24.1
NI	15.7	27.1	40.0	17.1	27.8	12.3	43.9	21.1
UI	16.4	31.1	32.8	19.7	14.8	41.0	38.5	5.7
RH	12.3	14.0	54.4	19.3	8.5	29.2	44.3	17.9
MH	35.3	6.7	42.9	15.1	8.0	43.0	35.0	14.0
ZI	30.6	18.5	34.3	16.7	23.9	18.3	40.4	17.4

*A category of OTHER was excluded from the proportion.

REGUL=Regulating behavior QUEST=Question RESPO=Responsive behavior
INFOR=Information

Table 4 Proportion of mothers' and fathers' triadic encouragement and reference

	Mother	Father
DT	6.5 (6)*	0
NH	2.7 (2)	4.5 (5)
DK	3.4 (5)	0
NW	9.0 (11)	3.0 (4)
NI	2.5 (2)	4.5 (3)
UI	0	0.6 (1)
RH	0	3.4 (4)
MH	9.1 (13)	0
ZI	0.9 (1)	0.8 (2)

*Raw number of utterances