

**TRIADIC INTERACTION AMONG YOUNG CHILDREN AND THEIR
MOTHERS AND FATHERS**

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TABLE OF CONTENTS

Chapter 1 Interaction Among Young Children and Their Parents	1
1.1 Introduction	1
1.2 The inclusion of fathers in the interactive process	2
1.3 Dyadic mother-child, father-child interaction	3
1.4 Triadic mother-father-child interactions	5
1.5 Research issues arising from the triadic literature	9
1.6 Mother-child-child triadic interaction	12
1.7 Conceptualization of the triad	15
1.8 Objectives and scope of the work	17
1.9 The objectives of the present work	21
 Chapter 2 The Setting, The Situation, The Subjects and Coding the Triadic Interaction	 23
2.1 The observational setting, situation and equipment	23
2.1.1 The observational setting and equipment	24
2.1.2 The observational situation	24
2.2 The subjects	28
2.2.1 The group of 12 month old children	29
2.2.2 The group of 24 month old children	30
2.2.3 The group of 36 month old children	31
2.2.4 The longitudinal triads	32
2.3 Auditory status	34
2.3.1 Rationale	34
2.3.2 Results	35
2.4 Coding of the data	36
2.4.1 Defining who took the turn	38

2.4.2	Defining the behavior which made up the turn	38
2.4.3	Defining the direction of the turn	39
2.4.4	Describing the turn	39
2.5	Establishing inter-rater agreement	39
2.6	The number of turn opportunities and the length of the interaction for the three triad groups	40
2.7	Summary	43
 Chapter 3 Behaviors that Defined Participation in the Triad		 45
3.1	Behaviors constituted the turn	45
3.2	Defining who took the turn	52
3.3	Defining the behaviors that constituted the turn	54
3.4	Verbal, gestural and action turns	54
3.5	Summary	68
 Chapter 4 The Direction of the Turn		 71
4.1	Defining the direction of the turn	71
4.2	No direction turns	72
4.2.1	No direction action turns	72
4.2.2	No response turns	78
4.3	Monadic turns	78
4.4	Dyadic turns	81
4.5	Double dyadic turns	83
4.6	Triadic turns	88
4.7	Summary	95

Chapter 5	Participation in the Triad	98
5.1	Turn opportunities in the triad	98
5.2	Participation in the triad	106
5.3	The behaviors that occurred in the interaction as a function of the age of the child	108
5.4	The behaviors that occurred in the three longitudinal triads	112
5.5	The comparison of behavioral repertoires	116
5.6	Summary	122
Chapter 6	Analysis of the Turn Direction	125
6.1.	The frequency of different directions of turns for the three age groups	126
6.1.1	The proportion of different direction turns for the three children followed longitudinally	127
6.2.	No direction turns	129
6.3.	Monadic Turns	130
6.4.	Dyadic Turns	130
6.4.1.	The direction of dyadic turns in the triad.	131
6.4.2.	The proportion of dyadic turns addressed to the child as a function of gender	133
6.4.3	The response of the children to a particular parent	134
6.5	Summary	134

Chapter 7	Interaction Analysis of the Triad	136
7.1	The technique used for the interaction analysis	136
7.2	Initiations	137
7.3	Responses	143
7.4	Continuations	148
7.5	Reinitiations	155
7.6	Summary	164
Chapter 8	Analysis of No Direction Turns	167
8.1	No Direction Turns	167
8.2	Unintentional Initiations	167
8.2.1	Attributing meaning to the UIs	168
8.3	The function of RUIs	171
8.4	No response turns	179
8.5	Summary	184
Chapter 9	Dyadic Turns and Double Dyadic Turn	185
9.1	Dyadic Turns	185
9.2.	Parents' Interactions with Their Children	187
9.2.1	Parents' dyadic initiating style with their 12, 24 and 36 month old children	188
9.2.2	Parents' dyadic responding style with their 12, 24 and 36 month old children	191
9.3.	Children's Interactions with Their Parents	192
9.3.1	Twelve, 24 and 36 month old children's dyadic initiating style with their parents	194

9.3.2 Twelve, 24 and 36 month old children's dyadic responding style with their parents.	195
9.4 Comparisons between dyadic turns of the parent directed at the child and child directed at each parent	196
9.5 Parental exchanges	200
9.6 Double Dyadic Turns	205
9.7 Summary	208
Chapter 10 Conclusions and Recommendations	212
10.1 Introduction	212
10.2 The setting, the situation, the subjects and coding the triadic interaction	213
10.3 Behaviors that defined participation in the triad	214
10.4 Defining the direction of the turn	215
10.5 Participation in the triad	216
10.6 Analysis of the turn direction	217
10.7 Interaction analysis of the triad	218
10.8 Analysis of no direction turns	218
10.9 Dyadic turns and double dyadic turns	219
10.10 Conclusions	221
10.11 Recommendations for future work	222
References	224
Appendices	234

LIST OF FIGURES

Figure 2.3.1	34
The incidence of otitis media in children as a function of age.	
Figure 5.1.1	103
The proportion of total turn opportunities available to mother, father and child at 12, 24 and 36 months for Triad 1	
Figure 5.1.2	104
The proportion of total turn opportunities available to mother, father and child at 12, 24 and 36 months for Triad 2	
Figure 5.1.3	105
The proportion of total turn opportunities available to mother, father and child at 12, 24 and 36 months for Triad 3	
Figure 5.3.1	109
The mean proportion of total behaviors constituting the turn for 12 month old children and their parents	
Figure 5.3.2	110
The mean proportion of total behaviors constituting the turn for triads of 24 month old children and their families	
Figure 5.3.3	111
The mean proportion of total behaviors constituting the turn for 36 month old children and their families	
Figure 5.4.1	113
The proportion of behaviors that comprised the turns in the three longitudinal triads at 12 months of age	
Figure 5.4.2	114
The proportion of behaviors that comprised the turns in the three longitudinal triads at 24 months of age	
Figure 5.4.3	115
The proportion of behaviors that comprised the turns in the three longitudinal triads at 36 months of age	
Figure 5.5.1	117
The mean proportion of the individual's verbal turns in the 12, 24 and 36 month old age groups	
Figure 5.5.2.	118
The mean proportion of the individual's verbal/action turns in the 12, 24 and 36 month old age groups.	
Figure 5.5.3	119
The mean proportion of the individuals action turns in the 12, 24 and 36 month old age groups	

Figure 5.5.4	120
The mean proportion of the individuals no response turns in the 12, 24 and 36 month old age groups	
Figure 6.1.1	126
The mean proportion of turn directions taken by the three age groups as a function of the total number of turns.	
Figure 6.1.1.1	128
The proportion of the different types of directional turn opportunities available at 12, 24 and 36 months for the three longitudinal triads.	
Figure 6.2.1	129
The mean proportion of no direction turns taken by 12, 24 and 36 month old children as a function of the total number of turns taken by the child.	
Figure 6.4.1.1	131
The mean proportion of each type of dyadic turn for the three age groups as a function of the total number of turns taken.	
Figure 8.2.1.1	170
The mean proportion of mothers' and fathers for the three age groups	
Figure 8.3.1	175
The mean proportion of mothers' and fathers' comment and control RUIs as a function of the number of dyadic turns they directed to the child for the three age groups	
Figure 9.2.1.1	189
The mean proportion of verbal, verbal/action and action initiation turns as a proportion of the number of turns each parent directed at the child 12, 24 and 36 months.	
Figure 9.2.2.1	191
The mean proportion of verbal, verbal/action and action response turns as a proportion of the number of turns each parent directed at the child at 12, 24 and 36 months.	
Figure 9.3.1.1	194
The mean proportion of verbal, verbal/action and action initiation turns as a proportion of the number of turns the child directed to each parent at 12, 24 and 36 months.	
Figure 9.3.2.1	195
The mean proportion of verbal, verbal/action and action response turns children addressed to their parents at 12, 24 and 36 months.	
Figure 9.5.1	202
The mean proportion of related and independent turns mothers and fathers addressed to one another at 12, 24 and 36 months.	

Figure 9.6.1 207
The mean proportions of children's ambiguous and defined
double dyadic turns at 12, 24 and 36 months.

LIST OF TABLES

Table 2.2.1	Age, Sex, and Family Information at Time of Recording of Children for the 12 Month Old Group of Children	30
Table 2.2.2	Age, Sex, and Family Information at Time of Recording of Children for the 24 Month Old Group of Children	31
Table 2.2.3	Age, Sex, and Family Information at Time of Recording of Children for the Group of 36 Month Old Children	32
Table 2.2.4	Age, Sex, and Family Information at Time of Recording of Longitudinal Triad Group	33
Table 2.5.1	Inter-rater Concurrence for Definition of the Turn Boundary, Type and Direction of Six Randomly Selected Records	40
Table 2.6	Number of Turn Opportunities, Length of Interaction and Mean Number of Turns Per Minute for the Three Groups of Children and Their Parents	42
Table 5.1.1	Mean and Standard Deviation for Proportion of Turn Opportunities Available to Each Member of the Triad for the Three Age Groups	101
Table 5.2.1	Median and Standard Deviation for Proportion of Turns Taken by Each Member of the Triad for the Three Age Groups	107
Table 8.4.1	Mean Proportion of No Response Turns Following Dyadic Turns	183

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ABSTRACT

Recent research into the interaction which occurs between mother, father and child has tended to view the interaction as two dyadic interactions, one occurring between the mother and the child and the other occurring between the father and the child (Barton and Tomesello, 1994). None of these studies have viewed the triadic interaction which exists when mother, father and child are present as anything other than a series of dyadic interactions.

In this study, three groups of children aged 12 months, 24 months and 36 months were videotaped for 15 minutes with their fathers and mothers while they ate lunch. Three additional children and their parents were followed in a longitudinal study. The interactions were coded from the videotapes. Included in the coding were turns that were monadic, dyadic, double dyadic and triadic and thus incorporated interactions which are exclusive to polyadic interaction. It was found necessary to include non-verbal behaviors to assist in the definition of the turn and its direction within the interaction.

The work examines the way infants and young children gain access to the triad and how the interactive behavior changes as the child's communicative competence develops. The changes in parental interaction styles are also analyzed as a function of the age of the child.

Chapter 1

Interaction Among Young Children and Their Parents

1.1 Introduction

An extensive literature exists on mother-child interaction and communicative development (see Gallaway & Richards, 1994 for a recent review). Mothers are reported to use short, syntactically simple, grammatically correct utterances. Their speech is extremely redundant, containing many repetitions and limited to simple vocabulary. It tends to be more fluent and correct than speech addressed to adults (Messer, 1994). Prosodic characteristics including high overall pitch, slow tempo, stricter rhythmicity and exaggerated intonation have all been reported (Papousek, Papousek & Haeke, 1987).

The social context of early mother-child interaction indicates that child directed speech is generally confined to the present and related to the child's focus of attention (Snow 1995). Recent research analyzing social gaze and vocal turn taking has indicated that during the first months of life, it is the mother who provides the structure in the interaction. She manages to give the appearance that the young infant is functioning as a competent member in the interaction by being responsive to the infant's behavior (Bloom & Lo, 1990).

Rutter and Durkin (1987) examined the turn taking behavior of mothers and their 12, 18, 24 and 36 month old children. They determined that by 18 months adult gaze patterns, as a signal of turn taking, was beginning to emerge in the infant. Between 24 and 36 months infants' vocal interruptions decreased and infants' vocal turns began to be coordinated with their mothers. Rutter and Durkin suggest that during this time children begin to play a more active role in

controlling the sequencing of the interaction. It is proposed that through this process children become engaged in social exchange with their parents and this shared communicative experience is the basis for later linguistic communicative development (Messer, 1994).

A child's interactive environment, however, often consists of more than just a series of dyadic interactions with the mother. Fathers and siblings are also often part of the interactive environment in the family and a much more limited body of research exists on interactive settings involving more than the mother (see Barton and Tomasello, 1994 for a recent review). The present study is an attempt to move beyond the dyad and describe the triadic interactive environment of the child and parents from the emergence of first words to the appearance of early conversational skills.

1.2 The inclusion of fathers in the interactive process

Rebelky and Hank (1971) stated that fathers spend a very limited time with their infants consisting of a few seconds to a few minutes a day while Ninio and Rinott (1988) reported that fathers spent an average of 2.75 hours per week with their infants. The degree of father involvement has changed as more women have entered the workforce and child care becomes more of a shared responsibility.

Pedersen (1980) laments:

Studies of early influences on development have treated the mother as if she comprised the infants total social milieu, and theory has been concerned with mother and infant as if theirs was the only relationship infants form. (p.1)

Geiger (1996) in her study of fathers as primary caregivers concludes that fathers can successfully take on the role of primary caregiver and provide the child with "exciting play partners, and nurturant and affectionate companions

who stimulate their infant's sociability and autonomous behavior" (p.105). Although fathers seem to be more involved today much previous work has appeared to dismiss their role.

1.3 Dyadic mother-child, father-child interaction

From a methodological perspective most researchers have tended to approach child directed parental input by comparing mother and child interactions with father and child interactions in a dyadic setting. The focus has tended to be on comparing linguistic similarities and differences in mothers' and fathers' speech. Very little attention has been paid to the way parents work together to facilitate the interactive process.

Most research into parent-child interaction has been quantitative in nature and has been concerned with the structural-linguistic aspects of language input. Fathers are reported to make similar adjustments to their speech as mothers (Kavanaugh & Jirkovsky 1982; Malone & Guy 1982). Parents have been reported to use a similar proportion of statements, questions imperatives and repetitions (Golinkoff & Ames, 1979; Lipscome & Coon, 1983; Lewis & Gregory, 1987). In addition, parents are reported to make similar adjustments to their Mean Length of Utterance (MLU) (Lipscome & Coon, 1983).

Mothers and fathers are reported to make similar prosodic changes to their speech when addressing young children. Papousek et al. (1987) found that both parents when addressing their three month old infants slow down their speech, increase their overall pitch and make use of exaggerated intonation patterns that are frequently repeated. These changes in the prosody of speech exist across a number of cultures to varying degrees. Fernald, Taeshner, Dunn, Papousek, Benedicte de Boysson-Bardies, Fukui, (1989) compared prosodic

modifications made across cultures by French, Italian, German, Japanese, British and American parents of slightly older 10 to 14 month old children. They report that mothers and fathers of all of the studied nationalities raised their pitch when addressing their children. Mothers were more likely to use a wider pitch range than fathers in child addressed speech and American mothers used the widest variation of pitch of all of the nationalities.

Some researchers have turned their attention to communicative competence and focused on discourse and conversational aspects of the interaction. Bornstein, Vibbert, Tal & O'Donnell (1992) suggest that both parents adapt their interactive styles in similar ways with their 13 and 20 month old children. Child (1986) reported that mothers and fathers employed the same behaviors with their eight month old children and spent the same proportion of time directing the infants' attention. Conversely, some studies suggest that while fathers use similar conversational styles and discourse strategies as mothers, they are not quite as adept at the task. Malone and Guy (1982) concluded that fathers' communication with their three year old sons was more controlling and less child-centered than mothers' communication. McLaughlin, White, McDevitt and Raskin (1982) reported that mothers were more adept than fathers at modifying their speech to meet linguistic abilities of the child. Rondal (1980) indicated that fathers requested clarification from the child more often than mothers. Tomasello, Conti-Ramsden and Ewert (1990) noted that fathers failed to acknowledge child utterances more often than mothers while children were more willing to pursue the topic after non-acknowledgment from the mother than from the father. These findings support a hypothesis proposed by Gleason (1975). She contended that because fathers are less knowledgeable about their children they are not able to make the fine adjustments mothers make to their speech. This makes fathers more challenging communication partners and in

turn this helps the infant bridge the gap between communicating with his or her mother and communicating with the outside world which is likely to be even less sensitive than the father to the child's linguistic ability. Recent research by Davidson and Snow (1996) however calls this hypothesis into question. In their study, they found that mothers used longer and more complex linguistic structures with their five year old children than did fathers.

1.4 Triadic mother-father-child interactions

Only a limited number of studies have examined the interaction occurring in triadic situations with mothers, fathers and children. The triadic context is included more for the purpose of comparison with the mother-child and father-child dyads than to examine the characteristics and dynamics of the triad. These studies suggest that the number of participants in the interaction affects the language behavior of the participants (Davidson & Snow 1996; Hladik & Edwards, 1984; Golinkoff & Ames, 1979; Rondal, 1980; Stoneman & Brody, (1981).

The first reported study to include a triadic component that examined maternal and paternal speech to young children with a sample size greater than three or four children was conducted by Golinkoff and Ames (1979). They video taped twelve 19 month old children and their parents in structured-play dyadic situations (mother-child; father-child) and a free-play triadic situation (mother-father-child). Some behaviors remained stable across situations. Parents used a similar number of verbs and appeared to use repetitions in a similar fashion. They repeated themselves more when attempting to elicit action than when contributing information. Both parents, however, took longer turns in the free-play triadic situation. Fathers had approximately the same number of utterances as mothers in the structured-play dyadic situation but contributed significantly

fewer utterances in the triadic free-play situation. They concluded that this difference was probably related to the different types of interactive play situations used rather than the fact that the structured play situations were dyadic and the free-play situation was triadic. Golinkoff and Ames suggested that mothers may take charge of the free-play situation to show the child to best advantage resulting in the father taking fewer turns.

Stoneman and Brody (1981) audio taped eighteen 24 month old children using a free-play dyadic situation with each parent and a free-play triadic situation. They proposed that it was the number of family members involved in the interaction rather than the activity that accounted for the difference in the number of utterances used by mothers and fathers. They hypothesized that family members would adjust their conversational styles to accommodate the number of people in the interaction. Language measures were the same as those selected by Golinkoff and Ames. Stoneman and Brody found that fathers and mothers performed in a similar manner on all of the linguistic measures other than fathers using fewer utterances in the triadic situation. They concluded that parents rather than children make changes from dyadic to triadic situations and the major accommodation made was a decrease in the total number of utterances particularly those taken by the father.

Rondal (1980) audio taped five sets of parents interacting with their 18 to 36 month old sons. Each parent interacted with the child while looking at a picture book and in a free-play activity and both parents interacted with the child during a meal. Rondal reported that mothers used more utterances than fathers but this was most pronounced in the triadic situation. Mothers used longer utterances and corrected their children's speech more frequently. Fathers' speech was

lexically more diversified and contained more requests for clarification. All parents adapted appropriately to the linguistic abilities of the child.

Hladik and Edwards (1984) conducted a study of mother-child, father-child dyads and mother-father-child triads. The 10 children ranged in age from 24 to 40 months and the interactions were audio taped in the home. They reported that, contrary to the findings of Golinkoff and Ames (1979), Stoneman and Brody (1981) and Rondal, mothers and fathers tended to produce a similar number of utterances in the triadic situation while mothers had a higher proportion of utterances than fathers when dyadic situations were compared. Fathers spoke in longer sentences in triadic situations than in dyadic situations. No differences were observed in the use of declarative, negative and imperative sentences and tag or Wh questions. Mothers asked more yes/no questions in the triadic setting and had a slightly higher proportion of ungrammatical sentences. Hladik and Edwards suggest that mothers may function more as initiators of communication and fathers as responders to communication.

Pellegrini, Brody and Stoneman (1987) audio taped eighteen two, three and four year old children in dyadic and triadic play settings. These researchers were interested in pragmatic abilities, specifically, the child's ability to follow Grice's maxims. Grice (1975) sets out four different types of violations of conversation that can occur. These include:

- 1) quantity - utterances should convey no more or no less information than required;
- 2) quality - utterances should be true and there should be evidence available to support statements;
- 3) relation - utterances should be related to the topic of discourse;
- 4) manner - utterances should be unambiguous, brief and orderly.

Parent's reactions their child's violations were also examined and these were defined as no reaction, repetition, clarification and models/corrects. The most frequent form of violation was one of quantity and most of these were no response violations. Two year olds generate more quantity and relation violations than three or four year olds. Parents withheld reaction more from three and four year olds than they did from two year olds in both dyadic and triadic situations. Mothers were more likely to adjust their topic to sustain the discourse following a violation. Fathers responded more to violations than mothers using repetition strategies with two year olds and modeling strategies with three and four year olds. It was only in the dyadic situation that parents' reactions were different. In the triadic situation parents adopted similar repair strategies suggesting that fathers accommodate the mothers' interactive style. They conclude that parental interaction strategies are sensitive to the contexts in which they occur and stated that research is needed to examine communicative competence in contexts such as the triad to develop a complete picture of pragmatic proficiency.

Davidson and Snow (1996) audio taped twelve five year old children and their parents in dyadic play settings and a triadic mealtime setting. They found that mothers took more, longer and more complex turns than fathers in all three settings. Mothers took charge of the triadic mealtime situation by introducing all talk. They spoke more about activities that included the child than the father. They dealt with the child's behavior by giving them more Choice than No Choice directives than fathers. This study also took into account the child's language to parents. They reported that the child in the dyadic situation used a greater variety and a higher level of questions and used more rare lexical items with their mothers than with their fathers.

1.5 Research issues arising from the triadic literature

Given the limited number of studies that have included mother-father-child triadic interactions there are a number of important issues that have not yet been addressed. Parental input research studies including a triadic component have tended to treat the triad as being very similar to the dyad. The major differences noted are that mothers tend to take charge in the triadic setting (Davidson & Snow, 1996; Golinkoff & Ames, 1979; Rondal, 1980; Stoneman & Brody, 1981) and fathers seem to accommodate mothers' repair style (Pelligrini et al., 1987).

None of these studies included a nonverbal component. All but one used audio taping and thus did not have access to nonverbal information. Only Stoneman and Brody mention the omission of nonverbal behavior as a shortcoming in their study. Research in the field of child language development has suggested that the context of the interaction is of considerable significance. The work of Bruner (1983a; 1983b) has had a significant impact on research into the relationship between language experience and language development. He suggests that the activity accompanying speech may be more important than the syntax mother's use with their young children. Harris (1992) makes the point that the generally negative results that emerged from the early studies that investigated the relationship between maternal input and language development in the child was the result of the failure to take the nonverbal context of the interaction into consideration.

Both Harris (1992) and Davidson and Snow (1996) make the point that there is a need to consider more than the input the child receives from parents. They argue that the behavior of the child or the 'uptake' (as Harris refers to it) also affects the interaction. Therefore there is a need to consider the communicative

attempts or interactive behavior the child uses with each parent. Harris (1993) examined the relationship between maternal speech and the context in which the language occurred. She analyzed mothers' speech in relation to infant behavior by recording the infants' gaze, actions and vocalizations and mothers' utterances. Using an episodic analysis of maternal speech, she identified what prompted the initiation of each episode. At 7 months mothers' speech tended to be a response to the change of direction of gaze of the child and was related to the child's focus of attention. By 9 months mothers were more likely to respond to their child's actions than changes in the direction of gaze and by 16 months 40% of the child's actions were accompanied by vocalizations. This study indicated that children influence what mothers talk about. In addition, it was found that the behavior influencing maternal responses changes as the child develops and becomes more motorically and linguistically competent. This research supports the argument that the child has a significant influence upon mother's behavior and that much of this early behavior of the child is occurring at the nonverbal level. By ignoring the young child's communicative contribution, specifically the nonverbal component, it is possible to reach the mistaken impression that adult input is all that is required for language development to occur.

Another important component that has been overlooked in these studies is turn direction. Research involving parent child triads has skirted this issue by referring to 'the child's linguistic environment' (Hladik and Edwards p. 322). This somehow implies that all speech occurring within earshot of the child is directed at the child or that all interactions within the triad carry the same impact for each member of the triad. In dyadic interaction it is reasonable to assume that the other person is the one being addressed. The same assumption cannot be made in the triad and yet only two of these studies even mention this

parameter. Davidson and Snow (1996) stated that they were not able to determine the person the child addressed in the triadic situation so they pooled the child's data and referred to it as speech the child addressed to the parents. They make no mention of the speech parents address to one another. Hladik and Edwards suggest that the reason parental utterances were longer in the triadic context was because speech between mothers and fathers was included.

Virtually none of these studies examined the way mothers', fathers' and children's interactive behaviors change and develop from the time children begin to use their first words to the time when they are able to participate cooperatively in shared discourse. Children ranged in age from 18 months to five years of age in these mother-father-child triadic studies and Snow (1995) cautions:

A number of general theses emerge from the many studies of CDS (*child directed speech*) and its effects. One is the need to differentiate CDS much more carefully than early studies did. The first studies in this field were fairly cavalier about the ages and language levels of the children being addressed, assuming evidently that the same features of CDS would facilitate growth at any age, and that growth could be represented rather globally. (p. 191)

Davidson and Snow's results, for example, suggest that mothers were the more challenging conversational partners in all interactive settings. It is certainly possible that mothers' interactive styles change as the child becomes a more competent communicator. Because mothers are often more familiar with the child's recent experiences they may become the older child's more challenging conversational partner. It may be that the shared experience with the older child provides the scaffolding necessary for mothers and children to engage in more complex conversations. However other studies with younger children have suggested that fathers tend to be the more challenging partner.

Research conducted by Fagot and Kavanaugh (1993) suggests that the role of parents changes during the child's early life. They contend that parenting becomes more complex between the second and third year of life. Parents of 12 month old children tend to have more positive interactions than parents with 18 month olds. Parents tend to talk more and use more directive and task oriented speech with 18 month olds. Of the six studies that contained a triadic component, only the study conducted by Pellegrini et al. (1987), examined groups of children at different ages. The remaining five studies either looked at a group of children at a single age or a few children representing different ages across an age range.

1.6 Mother-child-child triadic interaction

Research in the area of mother-child-child interaction has taken a less superficial approach to the study of the triad. Early studies in this area contended that the presence of another child in the interaction reduced the overall quantity and quality of mother-child linguistic interactions (Jones & Adamson, 1987). Not surprisingly mothers addressed each child with fewer utterances and became more directive in their interactive styles in a triadic setting (Tomasello, Mannle & Kruger, 1986). The implication was that the multichild context is a poorer language learning environment because children have to share access to the mother. By comparing the social and linguistic environment of 15 month old singletons and twins they found that basic structural linguistic measures such as MLU were the same for mothers in both groups but differences arose when pragmatic measures such as the proportion of directives and topic elaboration were examined. These researchers did however raise the issue of who was being addressed. They computed two values for the turns mothers address to each twin. They made the assumption that turns directed to the other child have little or no impact and so were excluded from the analysis. The number of turns

directed specifically to one child was determined and compared to the number of turns directed to that child plus the number of turns directed to both children.

Subsequent research has questioned the assumption that speech addressed to other members of the triad carries no meaning for the young child. It is now recognized that the mother-child-child triad may be a more interesting, stimulating and challenging environment than mother-child dyads because the child is exposed to a variety of communication styles (Barton & Tomasello, 1989; Mannle & Tomasello, 1987; Schaffer, 1989). In addition, in order to be successful, the younger child is required to be topical and add new information to the interaction (Dunn & Shatz, 1991). Children are also provided with an opportunity to "overhear" their older siblings joining into the interaction in a more sophisticated manner (Barton & Strosberg, 1997; Dunn & Kendrick, 1982a; 1982b; Dunn & Shatz, 1989).

Bruner (1983a) argues that for the young child to move from prelinguistic to linguistic communication the child requires more than simple exposure to language. There must be an interactive component to the communication occurring between the mother and the child. Because of the limitations of the child's processing ability, much of this interaction needs to occur in a familiar and predictable setting. He refers to these familiar, predictable settings as formats and suggests that the mechanism responsible for the establishment of these formats is joint attention. Joint attention has been studied in mother-child dyads. Tomasello and Farrar (1986), for example, found a positive correlation between the time mothers and children engaged in joint attention and vocabulary size at 21 months. They found that the 17 month old child learned novel words presented during periods of joint attention better than when mothers tried to teach these words through redirecting the child's attention. Barton and

Tomasello (1991) examined conversational interactions among mother-father-sibling triads and the nature of joint attention with nine 19 month old infants and nine 24 month old infants who were video taped in a free play situation with their mothers and preschool aged siblings. They found that triadic interactions were longer and elicited more infant turns than dyadic interactions. Infants as young as 19 months were able to join triadic interactions and they were more likely to do so when they were in a state of joint attention with the speaker.

It has been asserted (Barton & Tomasello, 1991; Dunn & Shatz, 1989) that mother-father-sibling triadic contexts might be the most opportune setting to facilitate participation in multispeaker contexts for young children because adult-adult-child contexts do not often lend themselves to conversational topics of sufficient interest for the young child to engage in a joint attentional focus with the two adults in the interaction. These researchers argue that the sibling is only slightly more advanced in linguistic and cognitive skills so the infant is able to benefit optimally from the experience. Barton and Tomasello (1991) for example state:

the mother-infant-sibling context may facilitate infant participation more than triadic contexts with two adults because the conversational topics of adults often do not concern things that lend themselves to a nonlinguistic joint attentional focus among all participants. (p.528)

They suggested that mother-twin triadic studies may not be ideal triadic contexts because the second child needs to be able to carry the conversational load. However, a recent triadic twin study of Barton and Strosberg's (1997) that used the same measures as the Barton and Tomasello (1991) study yielded similar results suggesting that it is a characteristic of the triad to encourage the children to use more and longer turns than in dyadic interactions with their mothers. One adult-adult-child context that is likely to contain conversational topics of interest

to the child is the mother-father-child triad where the parents' major focus is the child. It is certainly possible that two linguistically sophisticated adults (i.e. the parents) with an emotional relationship with the child may be capable of creating an interactive setting that is sensitive to the interest of the child and yet more challenging than the mother-child dyad.

1.7 Conceptualization of the triad

Parke, Power and Gottman (1979) proposed a social conceptual framework from which to view the triad in terms of the direct and indirect effects one individual can have on another member of the triad. They made four assumptions about triadic interaction:

- 1) all members of the family triad can influence each other...
- 2) triadic interaction can be conceptualized not merely as face to face interaction, but also as interaction that takes place in the absence of one of the members of the triad...
- 3) a variety of data sources can usefully be employed in understanding triadic interaction...
- 4) individuals within a triad can serve either as initiators or recipients of any action. (p. 232)

These assumptions proved to be extremely useful in developing the analysis used to describe the triad. The first assumption ensures that any model that is developed will need to view the impact of each interaction in relation to all three members of the triad. Forrester (1993), for example, demonstrated that children as young as 14 months showed evidence of monitoring conversations occurring between their mothers and older siblings. The impact of those utterances however might be different for each child. For example, the impact an interaction might have on the mother could be very different from the impact that turn might have on a young child.

Individuals within the triad can also combine their actions and direct them at other members of the triad. It is possible for members of the interaction to work in concert with one another to attempt to have an impact on the third member of the triad or for all three members to join together in unison.

The second assumption suggests that some of the interactions that occur in the triad may in fact be dyadic in nature. Although it could be argued that all interactions within the triad may have some impact on the other members of the triad, it is possible to have interactions that were targeted specifically for one individual in the triad and these were considered to be dyadic in nature. When interacting in multispeaker situations, a recognized set of behaviors identifies the person addressed and the person to take the next turn. These turns are essentially dyadic in nature. Ultimately, the third person in this type of triadic exchange would be in the position of overhearing the interaction and may join in the interaction when he or she has something to contribute or recognized something of significance. Forrester (1993) theorizes that the overhearer may take on either a participatory role or a non-participatory role and the role chosen will affect the impact of the interaction on the overhearer.

The third assumption suggests that techniques such as questionnaires and direct observation can be used as data sources. Data collection has often involved the family carrying on an activity with the child in the presence of one or two observers recording various categories of behavior on a check list (Belsky, 1980; Belsky & Isabella, 1985; Belsky, Taylor & Rovine, 1984; Liddell, Henzi & Drew, 1980; Stewart, 1979;1980). A surprising amount of data has been collected using audio recordings which has resulted in a considerable amount of significant behavioral information being lost. Locke (1995) states:

A major set of cues displayed by talking people includes the visible structure and movement patterns of the face. The human face represents an exceedingly active channel when individuals engage in *en face* spoken communications. The structure of the face provides indexical information, that is, identifies sender and receiver, thus supplying each participant with what is arguably the single most important piece of information in a social interaction. (p.281)

The fourth assumption is extremely important and is also related to Locke's contention. It stresses the importance of direction and the implicature of interactive acts. This assumption also leads to the notion that it is possible to view communicative attempts within the triad in the context of general interactive functions. By considering them in terms of initiations and responses and attributing a direction these behaviors can be examined on the basis of their relationship to other interactive behaviors within the triad.

As Warnery, Depeursinge, Bettens and Favez (1993) contend:

Although the contributions of each partner in the triad are important, describing them is not sufficient to convey the full context of the infant's development. It is also necessary to '*move beyond these additive approaches to capture the ways in which the family operates as a small group*' (Parke, 1990, p. 182). In other words, it is necessary to adopt broader perspectives, one focusing on the family as a whole and one focusing on the family as an organization between parts. (p. 299)

Inclusion of nonverbal information ensures that all members of the triad including the infant are represented in the description of the interaction. Defining the direction and function of the turn provides some information about the relative impact and organization of turns within the interaction.

1.8 Objectives and scope of the work

As discussed in Section 1.5 research in the area of mother-father-child triadic interaction has been quite limited and has failed to take a number of important aspects into consideration. Previous research into mother-father-child triadic

interaction has tended to use the triad as an additional context in which to compare mother's versus father's linguistic input to the child. The triad has been viewed as a series of dyadic interactions that have the same impact on each person in the interaction. The triad however has dynamics of its own and deserves exploration. Some of the deficiencies that have prevented a full and accurate description of triad include the failure to recognize the unique characteristics of the triad, to take nonverbal behavior into consideration, to define turn direction and to examine the changes that occur in the interaction as a function of the age of the child.

Harris (1992) has demonstrated that infants' nonverbal behaviors often determine the topic of mothers' interactions. Yet none of the mother-father-child triadic literature to date has included this important component in fact most of the studies in this area have relied on audio tape recording thus ensuring this behavior is not considered. Forrester (1993) argues persuasively:

The social world is not fundamentally a linguistic one, but a participative one where participation and communication involves using language as one particular sign-system. (p. 44)

Nonverbal behavior has an important interactive function within the triad and the failure to take it into consideration results in incorrect deductions about the interaction.

The young child's communicative skills develop dramatically between the first and the third birthday. This time period stretches from the age when parents are still largely responsible for the maintenance of the coordination of the interaction through to the age when children are playing an active role in determining turn structure (Rutter & Durkin, 1989) and beginning to engage in conversation (Dunn & Kendrick, 1989). To examine how the interaction changes as the child develops it is necessary to use a cross sectional and a longitudinal design. The

children in the present study included six 12, 24 and 36 month old children and their mothers and fathers. A longitudinal component consisting of three mother-father-child triads were included to provide some information about individual differences. The longitudinal triads were video taped when the children were 12, 24 and 36 months of age.

Some of the most interesting developmental research conducted on the triad has involved mother-child-child triads. This work has made a real attempt to examine the actual types of interactions that occur within the triad. Although early work in this area was somewhat superficial and reported that multispeaker situations were less than ideal for the promotion of language development (Tomasello & Mannle, 1985; Tomasello et al., 1986), other work drew attention to the opportunities the triad presented for the child to gain experience with multispeaker contexts (Barton & Tomasello, 1991; Dunn & Kendrick, 1982a; 1982b; Dunn & Shatz, 1989; Forrester 1988; 1993). The three major developmental issues raised in this regard were joint attention, overhearing and learning to join the interaction.

It is generally recognized that early social experiences the young child receives from parents are fundamental to the child's later participation in shared discourse (Bruner, 1983a; Collis, 1985; Harris, 1992; Locke, 1995; Messer, 1994). Joint attention is considered a major component of this experience because it makes the task of reference determination easier for the child. Essentially, joint attention involves parents accompanying the child's actions or current interest with relevant language rather than attempting to direct the child's attention and then introduce a topic. The management of joint attention within the mother-child dyad (Foster, 1986; Harris, 1992; Tomasello & Todd, 1983; Tomasello & Kruger, 1992) and in the context of the mother-child-child triad (Barton & Strosberg, 1997; Barton & Tomasello, 1991) has been

described but management of joint attention within the mother-father-child triad has not been described. It has been demonstrated that infants can be involved in joint attention episodes with their siblings and that there are beneficial aspects to that involvement (Barton & Strosberg, 1997; Barton & Tomasello 1991). The present study will examine some of the mechanisms parents use to establish joint attention in the triad and the following questions will be addressed. Do parents work together to establish joint attention? What are the mechanisms they use to accomplish this? Are there aspects of the establishment of joint attention that can be observed that are different from those occurring within the dyad? What role does nonverbal behavior play in the establishment of joint attention?

It has been suggested (Forrester, 1988; 1993) that overhearing interactions between other members of the triad may have significance with respect to the development of implicature and turn participation in multispeaker settings. Once again, this has been examined within the context of mother-father-sibling and adult-child-child triads however little or no attention has been given to mother-father-child triads. The dynamics of the mother-father-child triad differs from the mother-child-child triad. In the mother-father-child triad there are two linguistically competent individuals who are interested in the performance of the child rather than two children vying for the mother's attention. Are there aspects of overhearing that are of interest in the mother-father-child context?

Dunn and Kenrick (1982a; 1982b) and Dunn and Shatz (1989) have examined infants' abilities to join conversations occurring between the mother and an older sibling. They contend that two year olds monitor the speech occurring between mothers and older siblings and manage to intrude successfully. Are there indications that the child is able to accomplish this within the mother-father-child triad? Are there other challenges the child faces in this regard?

1.9 The objectives of the present work

The objectives of this study are:

- 1) to examine the video-taping of the family eating as an appropriate situation for studying triadic interaction among mother -father child;
- 2) to develop a methodology for the analysis of the triad which includes nonverbal behavior, turn direction and interactive function;
- 3) to describe the changing roles of mother, father and child within the triad as a function of the communicative competence of the child.

This study is descriptive in nature. Numeric descriptions are used to indicate possible trends rather than define significant differences. This study is really not an attempt to define the differences in mothers' and fathers' interactive behavior rather is an attempt to describe how mothers and fathers work together to create an effective communicative environment within the triad. Forrester argues that:

one reason why a logical-mathematical approach cannot accommodate socially related phenomena is that all such formalisms are structure motivated towards closure. In contrast, social phenomena are inherently open, dynamic and in one sense 'formally' unstable. For example, where coparticipants are mutually concerned with aiding each other's learning in a conversational context, ideally they will be oriented towards providing what they do not quite know they are going to need. Such predispositions will increase the likelihood that spontaneous and unanticipated leads in the talk might emerge. (p.41)

The examples presented in Chapters 3, 4 and 7 of this thesis are there to describe some of the interactions that arose and how these interactions were coded. They are not meant to imply that all triads with children of the same age as the children in the examples demonstrated the same form of interaction. These examples are meant to highlight some of the interesting spontaneous

interactions that occur in the triad and they provide a starting point for the discussion of issues of developmental significance.

Chapters 5, 6, 8, and 9 provide some indication of the distribution of the different types of interactive behaviors described in Chapters 3, 4, and 7 for the three age groups. As anticipated the relatively large age differences of the three groups of children resulted in dramatic differences in the prevalence of interactive behaviors.

Chapter 2

The Setting, The Situation, The Subjects and Coding the Triadic Interaction

This chapter describes the setting, the situation, the subjects and the coding for the triadic interactions.

2.1 The observational setting, situation and equipment

A playroom setting was selected for this study because the types of behaviors to be explored dictated that all members of the triad had to be clearly visible on the videotape and because it was an available, comfortable setting that remained constant across families. The positioning of the parents and children was also thought to be important and it would have been awkward to ask families to make these accommodations in their own homes. It can also be argued that moving in unusual equipment and observers into a home is akin to turning it into a laboratory (Schaffer, 1977).

There was another reason for conducting this study in a clinical setting. The author makes extensive use of video taping of interactions among families and their children who have a hearing loss. In fact, most professionals who use video tape analysis as an assessment measure conduct these studies in a clinical setting and therefore this seemed to be a more appropriate setting in which to make the comparison.

2.1.1 The observational setting and equipment

The video taping was carried out in a playroom 16 feet by 12 feet with a window in one wall. The floor was carpeted and there were children's pictures on the walls and several children's toys were visible in the room. The parents and child sat at a child's table with the child between the parents. A microphone was suspended from the ceiling above the table. A Panasonic F2CCD video camera was placed on a tripod in the corner of the room approximately ten feet away from the table. The recording equipment was situated on a window ledge behind a blind. The equipment was turned on and only the triad was present in the room during the session. Taping was terminated after approximately 15 minutes or at the point where the child would no longer sit at the table.

2.1.2 The observational situation

Another factor that must be considered is the selection of the activity used in the interaction. Calders, Huston and O'Brien (1989) observed parents interacting in dyads with their 18 to 23 month old children. They demonstrated that the type of toy the dyad played with affected the nature of the interaction. Feminine toys (dolls and dishes) encouraged physical proximity and more questions and comments. Masculine toys on the other hand (trucks and blocks) elicited fewer questions and comments, more distance between parent and child, more correcting and more animated speech sounds. Neutral toys (puzzles and shape sorter) elicited more positive and informative verbal behavior. Similar observations were made by O'Brien and Nagel (1987).

Worden, Kee and Ingle (1987) in a study with older children, age three and four years in two different alphabet learning tasks found that fathers and

mothers did not differ in their interactions in two dyadic situations which included looking at books and working with a children's computer program. They did however report a difference in styles used by mothers and fathers in the two tasks. Other researchers (Malone and Guy 1982; McLaughlin, et al 1983;) found similar results in dyadic situations but the study did not indicate the differences for each interactive situation.

O'Brien and Nagel (1987) cite research done by Bakker-Rennes which suggests that language used in an eating situation tends to be less complex. Feiring and Lewis (1987) in their study of mealtime structure and verbal interaction found that mother's tended to take charge of the meal. These findings are consistent with those of Rondal (1980) who found that mothers took more turn opportunities than fathers in a triadic mealtime setting than in other dyadic settings.

Kulka (1997) in a recent work dealing with cultural patterns and socialization in family discourse at mealtime contends:

that when mealtime is shared physically and conversationally with children, it serves as a critical social context in which children become socialized to local cultural rules regulating conversation, such as the choice of topics, rules of turn taking, modes of storytelling, and rules of politeness . (p.12)

She argues that the study of family mealtime discourse may have important implications in the study of pragmatic development in middle class families but may have much less significance in some other cultures.

She cautions that:

It is important to note that the study of pragmatic socialization in middle class family meals undertaken here is contingent on the sociocultural convention of treating children at shared meals as ratified participants. The construct of family dinner as necessarily an intergenerationally shared social conversational event is a sociocultural construct, one that seems empirically valid at least for many urban middle-class families throughout the Western world, but one that is not necessarily found in other sociocultural contexts . (p.10)

She also suggests that family dinners have the potential to provide the social support system that assists the child with the transition to adult discourse.

There is a supposition which needs to be made in terms of recording any interaction between parents and children where the participants know they are being recorded. Parents will generally attempt to work together to show their child in the best possible light (Russell, Russell and Midwinter, 1992). The unobserved home situation maybe quite different at times because children are less likely to be the major focus of attention for this extended period of time. Other family members, television and work within the home may take parents' attention away from their children and children, being the little attention seekers that they are, (Dunn and Kendrick, 1982a) are presented with yet another opportunity to gain and hold their parents' attention. The triad in some ways may be more representative of the real world than dyadic interactions involving only the child and the mother. At least within the triad, the occasion arises where the child does not have undivided parental attention.

The mother, father and child were video taped while eating lunch. The families were told that the research was designed to examine family interaction at mealtime. The purpose of the study was intentionally presented in vague terms following the suggestion of Duncan and Fiske, (1977) that it is

important that parents not be told anything which would emphasize the role of any member of the triad. It was recognized that the selection of eating as the activity upon which the interaction was based might mean that the mother was more involved than the father (Lamb, 1980; Stewart, 1978). The action of eating and more specifically feeding can be considered a caretaking activity for parents and a number of researchers including Lamb and Stewart have found that mothers are more likely than fathers to engage in this activity. Vuchinich, Vuchinich and Coughlin (1992) in their study of family talk and parent-child relationships argue that:

the acts of sitting and eating, and talking represent a common context in which family relationships and conflicts are displayed. From a data driven perspective, inferences about family relationships based on meal time talk have more ecological validity than artificial laboratory tasks.
(p.76)

Canadian families spend approximately one third of their food dollar on meals taken outside of the home (Statistics Canada, 1993b). This suggests that eating is an activity frequently engaged in by the family outside of the home.

The activity of eating a meal then was selected for the following reasons:

- 1) It was difficult to find a play activity that would be used in a similar fashion across the 12 to 36 month old age groups;
- 2) Eating a meal is an activity that occurs frequently with both parents present and may therefore be more reflective of the triadic interaction that occurs in the home;
- 3) It is an activity that is likely to keep the child in one place for at least 15 minutes;
- 4) It is an activity which often occurs outside of the home.

Parents were given a choice of bringing their own lunch or having it provided. If the lunch was provided for the family, an attempt was made to select food that the child liked. Egg salad sandwiches, chicken noodle soup and peanut butter and banana sandwiches were all requested. Parents were asked about food allergies and food was selected accordingly. An attempt was made to provide a nutritious lunch with a number of choices available. Lunches provided generally consisted of cheese, juice, muffins, yogurt, fruit and vegetables.

2.2 The subjects

The 21 triads were all from Saskatoon, Saskatchewan. The children ranged in age from 12 months to 37 months. They were all healthy, full term babies with no known disabilities. All of the children came from traditional two parent families. All of the parents had some form of post secondary education. Professions included university professors, teachers, prison guards, computer programmers, hair-dressers, engineers, social workers and medical residents.

Requests for volunteers for this study were posted in two city school systems, a large teaching hospital, and a local hair-dressing salon. Parents who indicated interest in the study were contacted by phone and an appointment was arranged. They were told that the child would be given a hearing test to ensure the child's hearing was normal at the time of video taping. The parents and child would then be video taped while eating lunch.

Twenty one families participated in the research project. Three families were video taped when the child was 12 months, 24 months and 36 months. The other 18 families were divided into three groups of 12 month old, 24 month

old and 36 month old children. Each group contained 6 families. These families were video taped only once.

Children were video taped as close to 12, 24 and 36 months as possible. Illness, childbirth and busy schedules sometimes prevented video taping at exactly the designated times but all children were video taped within one month of their birthday.

The fact that both parents were required to participate made it somewhat difficult to find subjects. Fathers seemed to be more reluctant to participate than mothers. There were 31 requests for information about participation in the study and all of these requests came from mothers. In eight cases the mother stated that her husband would not want to be video taped when they realized that both parents would need to participate. Two families were excluded because the children exhibited middle ear problems.

2.2.1 The group of 12 month old children

Table 2.2.1 provides the basic information for the group of 12 month old children. There were three girls and three boys in this group. Both parents worked outside of the home in four of the triads and only the mother worked outside of the home in one of the other triads while only the father worked outside of the home in the remaining triad. Three of the children had older siblings.

Table 2.2.1

Age, Sex, and Family Information at Time of Recording of Children
for the 12 Month Old Group of Children

Subject	Age in (months)	Sex	Children in Family	Order in Family	Parents Working out of the Home
4-12	13	male	2	2	Both
5-12	12	male	1	1	Both
6-12	12	female	1	1	Both
7-12	13	male	2	2	Mother
8-12	13	female	3	3	Father
9-12	13	female	1	1	Both

2.2.2 The group of 24 month old children

The composition of the 24 month old group is illustrated in Table 2.2.2. There were four boys and two girls in this group. Four of the children were the only child in the family and two had older siblings. In five of the triads, both parents worked outside of the home and only the father worked outside of the home in the remaining triad.

Table 2.2.2

Age, Sex, and Family Information at Time of Recording of Children
for the 24 Month Old Group of Children

Subject	Age (months)	Sex	Children in Family	Order in Family	Parents Working out of the Home
10-24	24	male	1	1	Both
11-24	24	female	1	1	Both
12-24	24	female	3	3	Both
13-24	24	male	1	1	Father
14-24	24	male	1	1	Both
15-24	24	male	2	2	Both

2.2.3 The group of 36 month old children

The 36 month old group consisted of four male and two female children. In two of the triads, only the father worked outside of the home. The mother worked outside of the home in one triad and both parents worked outside of the home in the other three triads.

Table 2.2.3

Age, Sex, and Family Information at Time of Recording of Children
for the Group of 36 Month Old Children

Subject	Age (months)	Sex	Children in Family	Order in Family	Parents Working out of the Home
16-36	37	male	4	3	Father
17-36	36	male	1	1	Both
18-36	36	male	2	1	Both
19-36	36	male	1	1	Father
20-36	36	female	1	1	Mother
21-36	36	female	1	1	Both

Statistics Canada in the 1991 census reported that 70% of married women work outside of the home while 55% of married women with children under the age of six years work outside of the home (Statistics Canada, 1993a). The percentage of mothers working out of the home in this study was slightly higher than the national average. Sixty-seven percent of the triads had both parents working outside of the home. In 11% of the triads the mother was the only parent to work outside of the home and in 22% of the triads the father was the only parent to work outside of the home.

2.2.4 The longitudinal triads

An attempt was made to obtain longitudinal data on six children. Video-taping was done at 12, 24 and 36 months. Three of the six families completed the video taping. One family dropped out because the father did not want to continue in the study. A second family moved away and a third family separated.

There were two boys and one girl in the longitudinal study. In all three triads, both parents worked outside of the home. Two of the children were only children when the sampling began. One had a brother born when the child in the study was 12 months old. The other child was the youngest of three children in the family.

Each triad was assigned a number. The three longitudinal triads were given numbers one, two, and three and the other 18 triads were assigned numbers four through 21. The second number referred to the age group to which the child belonged at the time of video taping.

Table 2.2.4
Age, Sex, and Family Information at Time of Recording of

Longitudinal Triad Group					
Subject	Age (months)	Sex	Children in Family	Order in Family	Parents Working out of the Home
1-12	13	male	1	1	Both
2-12	13	male	1	1	Both
3-12	12	female	3	3	Both
1-24	24	male	2	1	Both
2-24	25	male	1	1	Both
3-24	25	female	3	3	Both
1-36	36	male	2	1	Both
2-36	36	male	1	1	Both
3-36	36	female	3	3	Both

2.3 Auditory status

The hearing of each child was tested to ensure the child did not have a hearing loss at the time the triadic interaction was recorded. Electroacoustic impedance testing and visual reinforcement audiometry were conducted.

2.3.1 Rationale

An important consideration in the study of normal communicative development is ensuring that the children do not have any transitory condition which could affect their ability to communicate. Middle ear disease is the most commonly occurring disease in children under the age of six years (Maxon & Bracket, 1992). The incidence is highest in children under the age of two years (L.R. Baldwin, 1993). Figure 2.3.1 illustrates the incidence of middle ear disease in the pediatric population.

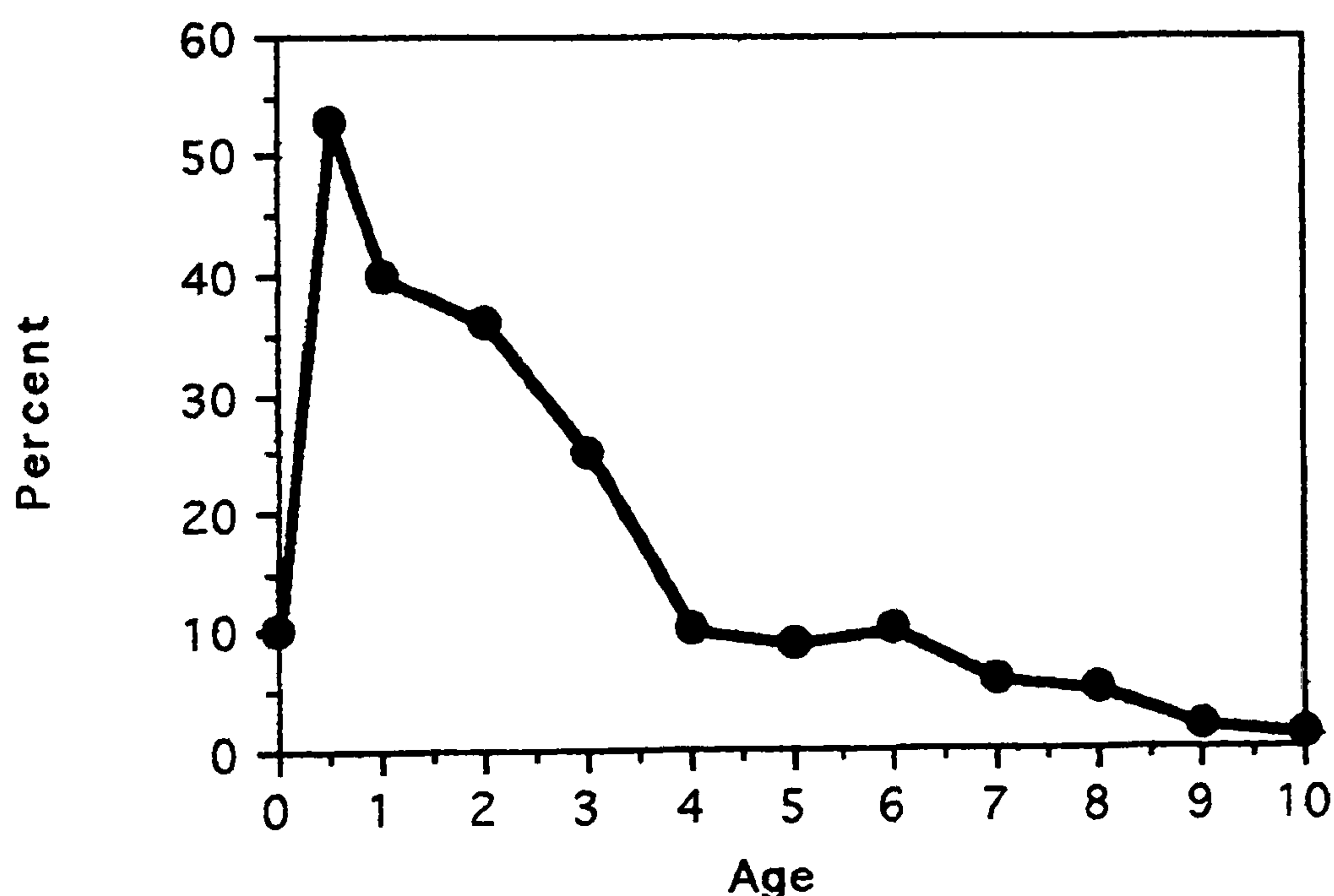


Figure 2.3.1. Incidence of otitis media in children as a function of age. Adapted from Hilditch, 1985.

One of the most common complications associated with otitis media is a conductive hearing loss (Klein, 1991). This hearing loss occurs when fluid is present in the middle ear space. This condition is referred to as serous otitis

media or otitis media with effusion. Otitis media with effusion can result in a hearing loss of between 20 dB HL and 50 dB HL throughout the speech frequencies. It is important to note that most children with this condition do not experience pain and the only outward manifestation of the disease is the presence of a conductive hearing loss which cannot reliably be identified without a hearing test. Although some controversy exists about the long term effects of otitis media with effusion (Paradise & Rogers, 1986; Teele, Klein, Chase, Menyuk, Rosner & the Greater Boston Otitis Media Study Group, 1990; Wright, Thompson & Bess, 1988) the immediate effect on communication is well documented. (See Roberts, Burchinal, Davis & Collier (1991) for a review of the literature.) Measures were therefore taken to ensure that all of the children involved in the study had normal hearing at the time of video taping.

No children with audiometric thresholds of greater than 20 dBHL at any of the test frequencies of 500 Hz, 1000 Hz, 2000 Hz and 4000 Hz in the sound field at the time of videotaping were included in the study. Test procedures are those described by Katz (1985) for visual reinforcement audiometry. Tympanometry was also performed on all of the children to ensure normal middle ear function.

2.3.2 Results

Two children with a history of middle ear disease were included in the study because their hearing was normal at the time of taping. One of these children had been treated with antibiotics and decongestants and the other child had patent myringotomy tubes which had been inserted three months prior to taping. The taping of one child was delayed by two weeks until fluid in the middle ear had cleared. This was the only known incidence of middle ear

disease experienced by the child. Two children were excluded from the study because they did not pass the sound field hearing screening test and tympanometry indicated reduced tympanic mobility bilaterally and a history of recurring middle ear problems was indicated by the parents.

2.4 Coding of the data

Initially, each video tape was viewed and a gloss of the tape was prepared. The gloss consisted of a verbal description of the interaction. An example of a gloss is contained in Appendix A. Although the gloss was not ultimately used in the study it provided a useful overview of the interaction.

Verbatim transcriptions were taken from the video tapes and entered into a Microsoft Works Database on a Macintosh computer. The complexity of the description of the interaction was compounded by the decision to include communicative nonverbal behavior. The presence of three rather than two people in the interaction further complicated matters. A layering technique was used to transcribe the data. The verbal behavior of each member of the triad was recorded and broken into turns.

Transcribing the nonverbal behavior was more difficult because decisions needed to be made about whether or not the nonverbal behavior carried communicative intent. A separate run through of the tape was required to record each individual's nonverbal behavior.

The next run through of the tape provided an opportunity to reconsider the turn boundaries once all of the nonverbal information had been added and covocalizations, joint actions and no response turns could be taken into consideration. The tapes were then examined again and the direction of each

turn was defined. Using the turn as the frame every attempt was made to view the role of each member of the triad in the interaction.

Finally, the audio portions of the tapes were digitized through a Mac Recorder program and the timing of each verbal turn was recorded with respect to the onset and offset of each turn. Duration of turn, inter and intra speaker silences were calculated for each triad. This information was only used to establish no response turns because the inclusion of nonverbal turns, made other aspects of the timing information questionable for this coding scheme.

The analysis of the triadic interaction was extremely time consuming. It involved multiple viewings of each tape to insure all types of interactive turns were included. Harris (1992) has argues that it is only through the collection of relatively large amounts of data on each child that insight can be gained into the relationship between language development and context.

The cost of employing a more detailed approach however means fewer children can be included in the study. The small number of subjects, the large number of possible behavioral variables, and the relatively large age differences among the three groups meant that the application of complex statistical procedures was judged to be inappropriate and differences should be evident through relatively simple measures.

The first field of the database contained the number of the turn. The second field recorded the individual who produced the turn. The third field defined the direction of the turn. The fourth field described the behavior which constituted the turn. Each turn was recorded on a separate line forming a record in the database. Appendix B provides a sample of the database.

Every attempt was made to determine what was communicated. This was not always easy with the younger children because of their level of phonological development. The use of eating as the interactive activity also affected the intelligibility of the speech at times. It is difficult enough to understand a 24 month old child without his mouth being full of bread. When it was not possible to determine what was said, question marks were used to indicate the number of syllables.

2.4.1 Defining who took the turn

A change of speaker or actor in most cases indicated an end to the turn. The turn boundary, however, is less evident in triadic than dyadic interactions. For example, it is possible to have situations where two or three people take the same turn. It was important therefore to clearly define the individual or individuals who were responsible for the turn. The second field in the data base provided this information.

2.4.2 Defining the behavior which made up the turn

The third field of the database recorded the type of behavior which made up the turn. The turn was coded as either verbal, gestural, action, or a combination of any of these. Verbalizations, gestures, and actions were included and counted as a turn when they conveyed meaning or helped to clarify the intent of the turn. Actions were considered turns when they were appropriate responses to previous turns. Frequently, children would not respond to parents requests and these were classified as no response turns. They played an important role in determining the turn boundary. They often followed requests for action or requests for information; sometimes they followed statements.

2.4.3 Defining the direction of the turn

The fourth field of the database recorded on the transcript was direction. This involved identifying the speaker(s) or actor(s) and the person(s) to whom the utterance, gesture or action was addressed. Direction of the turn was determined subjectively on the basis of linguistic content, gaze, pitch and current action (Duncan cited in Key, 1980).

Gestures and actions did not always appear to have intended directions and when this occurred no direction was recorded. Detailed descriptions of the parameter of direction are presented in Chapter 4.

2.4.4 Describing the turn

The fifth field of the database recorded described the turn itself. Verbalizations were transcribed and covocalizations were noted. Gestures and actions were described. Appendix C describes the coding used to describe the turn.

2.5 Establishing inter-rater agreement

The transcribing and coding of the interaction was explained to a co-worker and then an entire transcript was coded by that individual. All questions about the transcript were discussed with the researcher and discrepancies were discussed and resolved. Two triadic interactions were then randomly selected from each of the three age groups and one minute of each interaction was randomly selected and transcribed by the volunteer. These results were then compared with the original transcripts prepared by the author. Table 2.5.1 shows the inter-rater concurrence for the definition of the number of turns, turn boundary, type and direction. The number of turns and the turn

boundaries were compared and concurrence was established. The researcher's turn boundaries were used to examine concurrence for turn type and direction.

Table 2.5.1
Inter-rater Concurrence for Definition of the Turn Boundary, Type and
Direction for Six Randomly Selected Records

Sample	Number of utterances	Total Agreement for Turn Boundary	Total Agreement for Turn Type	Total Agreement for Turn Direction
A	19	17	19	18
B	16	15	15	14
C	47	46	47	45
D	20	20	20	20
E	42	42	41	41
F	35	34	35	35
Total	179	174	177	173
Percent	100%	97%	99%	97%

These results indicate high inter-coder concurrence for definition of the turn boundary, type of turn and direction of the turn.

2.6 The number of turn opportunities and the length of the interaction for the three triad groups

Table 2.6 represents the number of turns taken by, and clearly available to, each member of the triad. The interactions varied in length from 10 minutes and five seconds to 16 minutes and 20 seconds. Sampling did not begin until

the members of the triad were settled at the table. This took approximately two minutes. An attempt was made to collect the maximum sample size. Most of the sessions were approximately 15 minutes in length except for those cases where the sessions were terminated by the child leaving the table and going off camera.

Table 2.6

Number of Turn Opportunities, Length of Interaction and Mean Number of
Turns Per Minute for the Three Groups of Children and Their Parents

Triad	Number of Turn Opportunities	Length of Interaction	Mean Number of Turns Opportunities Per Minute
4-12	268	15:01	17.8
5-12	261	13:27	19.3
6-12	209	11:41	17.9
7-12	187	11:29	16.3
8-12	236	10:05	23.4
9-12	269	15:17	17.7
10-24	391	13:02	29.8
11-24	254	13:54	18.3
12-24	490	14:02	34.9
13-24	307	13:42	22.4
14-24	280	14:02	20.0
15-24	279	12:36	22.1
16-36	405	16:20	24.8
17-36	328	12:58	25.3
18-36	371	15:38	23.7
19-36	264	12:54	20.5
20-36	293	15:29	18.9
21-36	322	11:43	27.5

The term turn opportunities rather than turns taken is used because turn opportunities includes no response turns. The mean number of turns taken per minute was not necessarily reflective of the rate of the interactions because it did not take into account pauses which occurred in the interaction or the length of the turn and it included non-verbal turns (i.e. no response turns, action and gestural turns). It is used here to provide a method of comparison of relative interaction among triads of varying lengths. Considerable variation existed in the mean number of turn opportunities available per minute. They ranged from 17.8 to 34.9 turns per minute. The median for the 12, 24 and 36 month old age groups was 17.5, 22.3 and 24.3 turns per minute respectively suggesting a tendency toward an increase in the rate of turn opportunities per minute from the 12 to the 24 to the 36 month old triads. Caution should be exercised in drawing conclusions from these data because of the small sample size and the variations which occurred within each age group.

2.7 Summary

This chapter has described the setting, the equipment, the situation, and the activity in which the observation of the triadic interaction occurred. Three groups of six children age 12, 24 and 36 months were video taped while eating lunch with their parents. Additionally, a longitudinal sample of three families was video taped with their children at 12, 24 and 36 months. All of the children in this study had their hearing tested to ensure they had normal hearing at the time of video taping. Transcription of the videotapes involved multiple viewing of the tape to record verbal and nonverbal behavior, and to define turn boundaries and direction of the turn. Inter-coder concurrence was found to be high for the definition of the turn boundary, type of turn and direction of the turn. The number of turn opportunities, length of the

interaction and the mean number of turn opportunities per minute was also presented.

Chapter 3

Behaviors that Defined Participation in the Triad

This chapter describes the rationale for the definition of the turn boundary and the behaviors that were considered turns.

3.1 Behaviors constituted the turn

The objective of this study is to describe the interaction occurring among parents and their children and to illustrate how the interaction evolves as children become more communicatively competent. It has been reported that Condon spent several years analyzing 4.5 seconds of videotape of a family dinner Dowrick (1991). This author has no difficulty understanding how that happened. The first thing one is aware of when faced with the analysis of human interactions is how quickly events occur and how complex the behavioral stream really is. Kulka (1997) referring to meal time interaction states that:

Even the most mundane instances of face-to-face interaction are complex social performances and social meanings are jointly and dynamically negotiated rather than static and individual. (p.2)

The challenge then was to develop a coding system that captured the complexity of social performance and meanings.

The first decision to be made in the analysis of the interaction is what behavior needs to be taken into consideration. It quickly becomes evident that nonverbal information plays an important role in early communication. Most of the mother, father, child interaction studies focusing on communication, however, have looked exclusively at the linguistic component of the

interaction (Fernald et al. 1989; Golinkoff & Ames, 1977; Hunter, McCarthey, MacTurk & Vietze, 1987; O'Brien & Nagle, 1987; Pellegrini, et al. 1987; Rondal, 1980; Shatz & O'Reilly, 1990; and Tomasello, et al. 1990).

The age range of the children in this study dictated the need to include more information to reflect accurately the nature of the interaction. Messer (1981) examined the role of object manipulation on children's ability to interpret adult's speech in mother-child dyads with 11, 14 and 24 month old children and he suggests that:

Manipulation of objects . . . often coordinates the interest of adults and children. For example, monitoring a child's manipulation of objects can provide information which will allow an adult to integrate speech with the child's activity; alternatively adult manipulation of an object can be used to direct the child's interest to objects that the adult wishes to talk about. (p.40)

It seemed logical, therefore, to ask whether nonverbal behaviors such as object manipulation and gestures also have a role to play in helping the child function in the more complex context of the triad.

The range of communicative competence varied greatly among the three age groups. Very few verbal utterances were used by the younger children while most of the interaction occurred at the verbal level with the older children. The 12 and 24 month old children were, however, very much a part of the interaction. It was clear from viewing the video tapes that the younger children were involved in the interactive process but that these children were not usually entering the interaction at a verbal level. Clearly an approach which only looked at meaningful verbal output would not be adequate to describe the functioning of young children in a triadic situation. As Dimitracopoulou (1990) points out:

The understanding of conversational interaction requires a clear picture of non-verbal as well as verbal behavior. Non-verbal cues (e.g. eye to eye contact) signal important messages to conversational partners of any age. Non-verbal behaviors are not just an accompaniment of talk but often, and particularly at an early age, an alternative to talk. (p.52)

It became evident upon closer examination of the tapes that parents would often take nonverbal behaviors such as gestures and actions as attempts to communicate. Clark (1978) argues:

(the) attempt to answer the question of the function of communication should be abandoned in favor of an approach which allows a child's earliest utterances to be considered indeterminate in intent until made determinate by the interpretations placed upon them by adults. (p.233)

This is not an unreasonable assumption to make in light of Bloom and Lo (1990) findings that suggest parents with children as young as three months of age treat these children as competent interactive partners who are demonstrating intent in their interactions. This observation receives further support from a study conducted by Beaumont and Bloom (1993) that suggests adults are more likely to ascribe communicative intent to intonational vocal productions than mere vocalic productions.

The combination of an utterance with a gesture or action frequently helped attribute meaning to an otherwise nonspecific vocalization.

No	Agent	Type	Turn
147	c	ver/act	/eats peas/ err, nap
148	m	ver	peas, mmmm
149	f	ver	what's 'nap'?
150	m	ver	I don't know

Subject 9-12

Example 3.1

In the above example, the child vocalizes two syllables and the mother interprets this as a comment on the part of the child about her peas. It is likely that the majority of the meaning was carried by the child's actions because when the father questioned the mother about the exact meaning of the vocalization, the mother admitted that she didn't know what the child had said even though she automatically attributed meaning to the child's utterance. This type of interaction is consistent with the observations of Rondal (1980) and Gleason (1975) who indicated that fathers ask for more clarification of children's speech than mothers. The assumption is generally made that fathers have more difficulty than mothers understanding children's speech. This raises the question of whether mothers are better at extracting meaning because they are more attuned to the acoustic aspects of the speech or whether they are better at incorporating the contextual information into their interpretation of what the child has said.

Children's nonverbal behavior alone was also interpreted by the parents to convey intent and was therefore defined as a turn. In fact, many of the turns taken by parents of the younger children were often structured to elicit

nonverbal responses. These frequently took the form of requests for action or shifts in attention.

No	Agent	Type	Turn
152	m	ver	careful don't drop that put it back
153	f&c	act	/put knife back on table/
154	m	ver	good boy

Subject 1-12

Example 3.2

The mother instructs the child to put the knife back on the table and the child complies with the assistance of the father. A verbal comment on the part of the child in this situation could almost be considered redundant. The child's action demonstrates a degree of compliance with the mother's request which she acknowledges in Turn 154. This example illustrates another interesting aspect of triadic interactions. One member of the triad (in this case the father) is able to help the child comply with the mother's request.

The term turn opportunities has been used to this point because no response turns were included as part of the interaction. They helped define the end of the turn and they also allowed the author to obtain a better indication of the chances to participate given to a member of the triad. There were many occasions where children were asked questions or told to do something and the children either didn't answer or did not comply with the request or demand. These were coded as no response turns. Their inclusion helped define the turn boundary and provided an indication of the opportunities provided to each member of the triad to enter the interaction.

No response turns play an important part in determining the turn boundary. The following example shows the persistence of a father with his two year old daughter to gain her attention and then get her to respond to his question. The number in brackets following the turn indicates the amount of time in seconds that elapse before the next utterance.

No	Agent	Type	Turn
34	f	ver	we should do this every Sunday eh (1.14)
35	c	nr	
36	f	ver	go and have some free food at the hospital (1.66)
37	c	nr	
38	f	ver	what do you think (1.24)
39	c	nr	
40	f	ver	is that a good idea (2.34)
41	c	nr	
42	f	ver	Andrea (1.27)
43	c	nr	
44	f	ver	should we go have free food every day (1.89)
45	c	ver	yeah

Subject 11-24

Example 3.3

In this example, the father is jokingly trying to engage the child in a discussion while the child is looking over at the mother who is beginning to make sandwiches. Berninger and Garvey (1981) indicate that questions have special capabilities with respect to obtaining a response from a partner. This is an excellent example of a father using questions to draw his daughter into the

interaction. The father attempts to engage the child through the use of a tag question in Turn 34. Berninger and Garvey suggest that tag questions are used to indicate a turn transfer and it is likely that this is what the father is trying to accomplish here. He then gives the child 1.34 seconds to respond. The child ignores his request. Turn 36 is a continuation of the idea presented in Turn 34. Again the father pauses for over a second and then asks the child for her opinion. Again he does not receive a response. This time he takes a pause of over two seconds and then addresses the child directly in hopes of gaining a response. In Turn 44 he combines his thoughts stated in Turns 34 and 36 and this time he is rewarded with a response.

This example is interesting for several reasons. Firstly, it suggests that the father clearly has an expectation that the child will respond to his questions. He gives her six opportunities separated by a pause of more than a second to respond. Garvey and Berninger (1981) indicate that an interspeaker pause of one second is ample time to signal a possible change of speaker.

Secondly, the father uses a question form requiring a yes/no response. Because it is an opinion he is requesting, either "yes" or "no" would be an appropriate response. It is not really necessary for the child to understand the semantics of the question. It is only necessary for her to recognize it as a yes/no type question and respond with either "yes" or "no." The use of this simple request form is consistent with Steffenson (1977) who has reported that children learn to recognize that questions require a response before they necessarily understand the meaning of the question. In this case the child responds with the correct yes/no response and the father has succeeded in drawing her into the interaction with him.

Thirdly, the child demonstrates a degree of autonomy and selectivity in this example. She can clearly hear her father but chooses not to respond to him initially. Short of taking her face and turning it toward him, the father has very little control over the direction of the child's attention other than through the linguistic techniques he uses.

3.2 Defining who took the turn

Much of the time it is easy to identify who is taking the turn but there are situations which are specific to the triad and need to be addressed. The presence of another participant meant that two or even all three members of the triad could join forces and take a single turn. Co-vocalizations are the most obvious example. Example 3.5 illustrates a situation where more than one individual took the turn.

No	Agent	Type	Turn
120	m	ver	you try
121	c	act	/takes spoon and eats rice/
122	m&f	ver	{mmm} { yeah}

Subject 9-12

Example 3.4

In this example, the mother offers the child some rice and the child accepts after having refused the rice several times. The parents come together in Turn 122 to acknowledge the child's compliance. The mother's utterance immediately follows the father's utterance and addresses the same message to the child suggesting the parents have combined forces and taken the same turn. This type of latched utterance is counted as one turn.

In the following example, the covocalizations that occur for the mother and the father are treated differently. The mother is asking the child if she wants bread and the father is telling her there is soup. Turns 19 and 20 are counted as two separate turns because the message is substantially different for each parent.

No	Agent	Type	Direction	Turn
17	m	ver	m to c	want a piece of bread
18	c	act	c to m	/nods head/
19	f	ver	f to m	there's chicken noodle soup (too)
20	m	ver	m to c	(yeah) want a piece of bread
21	c	nr	c	

Subject 12-24

Example 3.5

In the case of covocalizations then, the utterance was counted as one turn when the intent was the same for the participating individuals. The utterance was counted as two turns when the intent differed. Brackets were used to indicate where the covocalizations occurred.

Covocalizations appeared fairly rarely. They accounted for approximately one percent of the turns in the 12 month old group and four percent of the turns in the 24 and 36 month old groups. This percentage of co-vocalization does not differ significantly from the findings of Garvey and Berninger (1981) who found co-vocalization occurred five percent and four percent of the time between dyads of two year olds and three year olds respectively. The lower percentage of covocalizations occurring in the 12 month old age group maybe

reflective of the fact that most of the 12 month old children vocalized less than the older two age groups and therefore the one percent of covocalizations is more reflective of adult dyadic interactions. The two and three year old children are more actively involved in the interaction and therefore there is more of a chance for covocalizations to occur.

3.3 Defining the behaviors that constituted the turn

Given the complexity of the triad and the richness of the behavioral stream, it was necessary to filter out behaviors which were not directly pertinent to the interaction. For example, one parent might be involved in the act of food preparation while the other parent interacted with the child. The focus was placed on the parent who was interacting with the child rather than the parent who was making the sandwich. This shift in focus is not likely to be an issue in dyadic situations but it is an important consideration in the triad.

The distinction between action and gestural turns was initially thought to be necessary to accommodate the situation of eating. Most of the studies that have explored gestural development have employed play situations rather than feeding situations (Adamson, Bakerman and Smith, 1990; Bates, 1979; Franco and Butterworth, 1996; Harris, Brown and Chasin, 1995; Lock 1978; Schmidt, 1996). Feeding situations have a concrete, highly context bound component to them which affects the tangibility of some behaviors so a distinction was made between object manipulation and the use of symbolic gestures.

3.4 Verbal, gestural and action turns

Toward the end of the first year gestures and first words begin to appear as part of the infant's communicative repertoire. These more symbolic forms of communication emerge from the social context in which the infant has been

involved since birth. The infant's focus of attention is expanding to include an interest in objects. The infant must now learn how to coordinate attention between objects and people. Pointing has emerged and both parents and children use it and actions such as giving and taking to help maintain the structure of the interaction and also assist members of the interaction coordinate their attention (Messer, 1994).

Actions begin to take on a new significance. Harris, Jones and Grant (1983) for example found that the reason for maternal topic shifts changed between 29 and 40 months of age. Changes in topic at the older age were more likely related to children's actions than direction of their gaze. Harris (1992) reports that by nine months mothers are more likely to respond to children's action initiations rather than shifts in gaze.

Familiar activities, games and rituals also play an important role at this stage of development (Bruner 1975b, 1983a). Having an opportunity to repeatedly take part in a familiar game or activity over a period of several months helps the child to understand the demands placed on him or her and the appropriate forms of communication required in a particular interactive situation.

There were two extended interactive episodes that occurred in the 12 month old triads that are of interest at this point. The 12 month old child in the first interaction appears to have a goal in mind that is slightly different from her parents and we see how she selectively responds to their overtures while continuing to work toward her objective. In the second interaction the parents and the child work together to share in the experience of looking at and referring to a light in the room. These interactions are fairly lengthy but that is necessary to illustrate the way these children and their parents "move around"

within the triad. Transcribing the triadic interactions containing the 12 month old group of children was challenging because it relied the most on actions and required a heavy reliance on context. The following two interactions with 12 month olds will therefore also help illustrate the coding of the transcripts.

No	Agent	Type	Turn
<i>Episode 1</i>			
9	c	act	/tries to get out yogurt/
10	m	act	/tries to help c put yogurt in her mouth
11	c	act	/c resists/
12	m	ver	may I have some then
13	c	act	/looks at f/
14	f	ver	can mom have a bite
15	c	act	/looks to m/
16	m	act	/opens mouth/
17	c	act	/opens mouth and tries to get yogurt into m's mouth/
18	m&f	ver	/m and f laugh/
19	f	ver	Hannah's turn
20	c	act	/holds spoon out to m/
21	m	ver/act	oh /accepts spoonful of yogurt/
22	f	ver	Hannah try some
23	c	nr	
24	f	ver	Hannah gonna eat some
25	c	nr	
26	m	ver	a bite for Hannah
27	c	act	/offers f spoonful/
28	f	act	/accepts mouthful f takes hold of spoon/

29	m	ver	oh a bite for daddy
30	f	ver/act	a bite for Hannah /offers c yogurt/
31	c	act	/accepts spoonful and then takes spoon/
32	f	ver	good

Episode 2

169	f	ver	what is that
170	c	act	/sticks finger in jello/
171	m	ver/act	oh taste for Hannah /helps c move hand to mouth/
172	c	act	/moves hand away/
173	f	ver	a bite
174	m	ver/act	a bite /moves hand to c's mouth/
175	c	gest/act	/makes face and moves away/
176	m	ver	no okay
177	c	nr	
178	m	ver/act	mommy have a bite /takes jello from c/
179	c	act	/gives up jello/
180	m	ver	thank you mmm
181	c	act	/takes another finger of jello/
182	m	ver	now you have a bite
183	c	act	/offers m jello/
184	m	ver/act	oh it's for me thank you /accepts jello/
185	f	ver	Hannah's turn
186	m	ver	you're going to feed me this jello right

The child continues to feed the mother jello until Turn 220

220	f	ver	one for Hannah to eat
221	m	ver/act	you give some to daddy /gives c cube/

222	f	ver	/laughs/
223	m	ver	give some to daddy let daddy eat some
224	f	ver	are they good
225	c	act	/gives cube to f/
226	m	ver/act	here's a big one for daddy /gives cube to c/ you give daddy a big one
227	f	act	/accepts cube/
228	m	ver/act	Hannah /holds out cube/
229	c	act	/drops jello on floor/
230	f	ver	oh on the floor /picks up jello/
231	m	ver/act	Hannah you want to give daddy a big one /continues to hold out cube/give it to daddy
232	c	act	/accepts cube/
233	f	ver/act	oh thank you Hannah /accepts cube/
234	m	ver/act	now here is one for Hannah /holds out jello/
235	c	nr	
236	m	ver/act	for Hannah /holds out jello/
237	c	act	/offers jello to f/

Subject 8-12

Example 3.6

Bruner (1983a) argues that early language development needs to be considered in the context of the culture that acts as the motivation for us to learn language. He draws four conclusions about the cognitive abilities and experience of prelinguistic infants that predispose them to function within that culture and ultimately acquire language. It may be of value to consider this interaction in the context of these conclusions.

1. "much of the cognitive processing going on in infancy appears to operate in support of goal-directed activity." (p. 24)

Although the mother introduces the notion of the child feeding her, it is the child who continues to persist in the activity and because her parents allow her to continue with the activity she essentially controls many of the interactions that occur over 100 turns. Although the child occasionally accepts a spoonful of yogurt, most of her parents' attempts to feed her are unsuccessful. She either ignores them and does not respond at all or she shifts her attention away from the parent who is trying to feed her toward the other parent. Aversion then becomes one form of motivation for a change in direction of attention.

2. "an enormous amount of the activity of the child during the first year and a half of life is extraordinarily social and communicative." (p.27)

Giving and taking of objects is one of the earliest forms of social communications to appear (Adamson, Bakeman and Smith, 1990; Caselli, 1990; Masur, 1983). Giving and taking are relatively simple actions which require little decontextualization and therefore may lend themselves to early episodes of joint engagement. These are also activities that are amenable to the involvement of both parents. The child in this interaction manages to feed both her mother and her father and they provide the appropriate social

responses. The child has no difficulty communicating to her parents her intentions even though she does not use any words.

3. *"much of early infant action takes place in constrained, familiar situations and shows a surprisingly high degree of order and 'systematicity'." (p.28)*

One of the most familiar social activities the child has been engaged in over the past year is feeding. It involves an adult offering food to the child and the child accepting or rejecting the offering. It is therefore appropriate that a role reversal of this nature should occur with the feeding activity. It has a clear structure to it and the child is quite familiar with that structure. The parents continue to provide the verbal and behavioral scaffolding for the interaction in the form of accepting and thanking the child for the food and commenting on its goodness. They also are not very persistent with the child with respect to insisting that she accept their attempts to feed her. It is as if they understand her objective and are willing to let her continue to strive for it.

4. *"its systematic character is surprisingly abstract." (p.29)*

Both of the episodes begin with the mother trying to feed the child and the child refusing the offer of the food. The father joins in support of the mother and then both parents give in to the child's indication that she wants to feed them. A period of offering, accepting and thanking follows.

The language used by the parents contains a great deal of repetition. The phrase "a bite" is used eight times and "for Hannah" occurs six times. These episodes deal largely with identifying who should receive some food and then the adults follow up with showing an appropriate form of appreciation. As a

result, the interaction not only contains much repetition, it also is sequentially predictable.

The other point which should be made here is that the topic of the child feeding the parents is set up jointly by the mother and the child. (Mother offers child food - child rejects offer - mother suggests child feed her.) This topic is carried on for 100 turns without the child saying a word. One has to think that this is an invaluable precursor to the development of the linguistic skills of topic maintenance.

It must also surely play a role in familiarizing the child with the dynamics of the triad. Parents are talking about offering and taking and informing the child that it is her turn. Because the topic of the conversation is food, this offering and accepting of food is closely related to the verbal taking and offering of turn taking occurring within the interaction.

By the time children begin to produce words, considerable time has been spent in relatively structured communicative routines with caregivers. Several researchers have analyzed these formats and described the linguistic and nonlinguistic "scaffolding" provided by the caregivers to make interactions relevant and contextually meaningful for the child (Adamson and Bakeman 1984; Bruner 1983a). Bruner contends that the underlying mechanism that facilitates the development of referential communication is joint attention. Adamson et al. (1990) suggest that communication at this point is more a matter of shared experience than communication of information from one individual to another. In the following example joint attention is negotiated among the three members of the triad and referential communication is established.

D.A. Baldwin (1993) suggests that it is at this time that the child begins to map words onto objects. The infant must be able to share and coordinate his or her attention with the object and the person for this form of referential communication to occur. Questions arise then of how the child deals with this situation when he copes with two adults and whether there are aspects of triadic interaction that are different from dyadic interaction with respect to referential communication.

No	Agent	Type	Turn
<i>Episode 1</i>			
5	m	ver	ah, what's that, mmm good stuff isn't that
6	c	act	/c looks up and then to f/
7	f	nr	
8	m	ver/act	lights /m looks up/
9	c	act	/looks at m/
10	m	ver/gest	/nodes head/ lights
11	m	ver	boy that's hard work eating isn't it
<i>Episode 2</i>			
113	m	ver/gest	there's your plate, this one's mummy's /points to plate/
114	c	act	/c looks at m/
115	m	act	/m looks up/
116	c	act	/c looks up/
117	m	ver/act	there's lights up there/looks up/
118	c	act	/looks up at the lights and then over to f/
119	f	act	/looks at c and then up at lights/
120	m	ver	where are the lights

121	f	ver/act	hmm /looks up and back down a c/
122	m&f	ver	mm mmm/laugh/
<i>Episode 3</i>			
225	c	ver/act	brrrrrbree /looks away/
226	f	ver	brrrbrrr
227	m	ver	where are the lights
228	f	ver	brrrr
229	c	ver/gest	aehhs /points to lights/
230	m	ver	that's the lights
231	f	ver	lights, floor
232	m	ver	no say where are the lights, where are the li...
233	c	ver/gest	ah li /turns toward m and points with spoon and turns to f/
234	m	ver/act	those are the lights up there /looks up/
235	f	ver/gest	lights /smiles nods head at c and looks up/
236	c	act	/grabs table cloth/
237	m	ver	hmm mmm, hmm mmm put the tablecloth down, eat your cheese
238	c	act	/stops pulling at the cloth/
239	f	ver/act	we can just stuff him full of applesauce here /offers c applesauce/
240	c	ver/act	li /looks up at lights/
241	m	ver	those are lights, that's the lights up there /looks up/
<i>Episode 4</i>			
271	m	ver	there you go

272	c	ver/gest	ahh/points up to ceiling/
273	m&f	ver/act	lights are up there, daddy's got some. there you go, bit of cheese /f feeds c/

Subject 4-12

Example 3.7

There is a redundancy possible in the triad that is not available in dyadic interaction. This is illustrated in the first episode of the interaction. The child looks up at the lights and the father does not respond to this action but the mother does and the child responds by shifting his attention away from the father to the mother.

Secondly, the triad in this case provides an opportunity for another dimension of joint attention to arise. Here the mother labels the object of interest while looking at the child. The child turns to the father who looks up at the referent thus providing this child with a chance to observe the mother and the father attaining referential communication. It is also possible that the glance toward the father is an extension of attention checking described by Masur (1983) suggesting communicative intent. In this case ,it does not appear in conjunction with a point but a glance in the direction of the referent. Lock, Young, Service and Chandler (1990) however question the communicative function of this look suggesting it is an artifact of the experimental condition.

Thirdly, this triadic interaction provides some insight into the mother's scaffolding ability within the interaction. It is important to look at the mother's turns sequentially through the episodes. In the first episode she picks up on the child looking up at the lights and she gains his attention by labeling them for him.

In the second episode, she has the child's attention and she directs it toward the lights by looking up and then the child looks toward the father. Once the child looks up, she then provides the label. While the child is looking at the father, the mother asks where the lights are and this time the father looks up.

In the next episode, the mother enters the interaction occurring between the child and father and asks where the lights are (a question she asked in the previous episode). This time the child vocalizes and points and she confirms his response in Turn 230. The father then enters the interaction and labels the lights and then tries to introduce "floor". It is at this point that the mother rejects the introduction of "floor" and corrects the father and tells him through the child that he should be asking him where the lights are. It appears that she does not want the father to sidetrack the child from the interaction occurring about the lights. She succeeds in bringing the father back on track because in Turn 235 he does not mention "floor" again. Loosely interpreted here the mother obtains joint attention in the first two episodes. In the first one she acts upon the child's shift in attention and in the second case she takes the opportunity to achieve joint attention again when she clearly has the child's attention. She then introduces the question "where are the lights".

In the following episode she succeeds in having the child respond to the question she posed in the previous episode. She then keeps the father on track and again accomplishes joint attention which the child shares with the father. This tactic of presenting only one concept within a format being more likely to result in the production of early words is consistent with the finding of Ninio (1993).

The fourth point to be made here is that this child plays an important role in involving the father in the referential communication that occurs. In the first episode, he shifts his attention to his mother when his father fails to respond to his glance upward but more interesting is his shift in attention in Turn 118 and 233. In both of these turns, the child achieves joint attention with the mother and then turns to the father which has the effect of including the father in the interaction. In both cases the effect on the father is for him to look at the child and then look up. The child does not look up in either of these situations. It may be that looking up with the mother is enough and the father looking up indicates that he is in fact "sharing the same experience".

The fifth point is that in this triadic interaction the frame for referential communication can be set outside of the immediate interaction. In the third episode, the father and child are exchanging "raspberry sounds". The topics of "lights" was last referred to over 100 turns ago but when the mother asks "where are the lights" the child responds with a vocalization which is an approximation of "lights" and a point with his spoon toward the lights. During this communication his visual attention continues to be directed toward the father except for a brief glance upward.

A comment should also be made here about the production of the word "lights." The mother's production of the word "lights" in Turn 227 stresses the word "lights" and uses a rising then falling inflectional contour. This contour is similar to that described by Papousek, et al. (1987) who proposed that adults speech to young children consists of a limited number of melodic units. They refer to this rising and falling contour as "bell shaped" and suggest that mothers use it when they want to emphasize the meaning of the word. The child uses the same contour in the repetition in Turn 229 and 240. In Turn

233, however, the child uses a two syllable utterance. This difference may very well reflect the inflectional contour of the mother's utterance in Turn 232 where she stresses the "the lights." The different stress pattern most likely occurs because she is addressing the father and explaining to him that she is talking about "the lights" and not "the floor."

At Turn 240, the child initiates joint reference by vocalizing the beginning of the word but it seems that it really is the inflectional pattern of the rising and falling vowel that carries the meaning. This is contrasted with Turn 272 where the intonational contour is more neutral and the gesture of pointing is used to direct attention to the lights. The vocalization in this case seems to be used more to attract attention and then the gesture directs the attention. The child has used four different phonological productions with three different inflectional contours to refer to the same object. Locke (1995) contends that:

The earliest utterances are prephonological - products of the processes of vocal accommodation that are heavily influenced by the infant's relationship with speakers and familiarity with social contexts (p.282).

This child is repeating the speech which is acoustically highlighted but it is unlikely he has any concept of the word boundary. He is responding to the prosodic information contained in the mother's speech. He uses similar inflectional contours in Turns 229 and 240 but phonologically the productions differ.

This example raises the question of whether the triad is a more challenging environment with respect to prosody for the young child because of the different stress patterns which may occur when adults address adults. Fernald et al. (1989) found that fathers make similar prosodic adjustments as mothers when addressing their preverbal infants. Duncan, Scheuneman, Bradley et al.

(1993) found that four month old infants were better at associative learning when they had adult-child speech in the background rather than adult-adult speech in the background. Suprasegmental information may play an important role in early communication, in fact, it is possible that it may act as a signal informing the infant about whether the utterance is referential or non-referential. Ryan (1978) found that infants tended to switch their attention from an object they were holding to the one their mother was holding when the mother used a rising inflection thus suggesting to the child that the utterance was referential in nature.

These findings suggest that the mother-father-child triad may be a more challenging communicative environment for the young child than the mother-child dyad or the mother-child-child triad because the child must cope with adult-adult speech and not just adult-child speech. This may complicate the task for the child in terms of determining the salient aspects of the interaction because the prosodic information has been altered to meet the needs of the adult when adult-adult speech occurs.

This example suggests that the triad presents a more challenging communicative environment in some respects. Children may not receive the same consistent prosodic information in the interaction as when they are interacting with only one parent and they are sometimes required to cope with different communicative objectives from each parent. On the other hand, the second parent can sometimes play a facilitative role such as catching an attempt on the part of the child to interact with the other parent and redirecting the interaction or helping the child comply with a request from the other parent. The second parent can also increase the redundancy of the interaction in this case by directing the child's gaze to the object under discussion.

3.5 Summary

The objective of this thesis is to describe and contrast the triadic interaction that occurs among mother, father and child with children who are 12, 24 and 36 months old. Because this study involves children who are just beginning to use words and gestures and children who are beginning to participate in conversations, it was necessary to include communicative nonverbal behaviors of both actions and gestures. Examples of interactions were included to illustrate how the interactions were coded with respect to the way verbal and nonverbal behavior combined to lend meaning to a turn.

The second issue to be addressed involved defining who took the turn. A distinction was made between turns where individuals acted together and turns where co-vocalization occurred but the individual turns conveyed disparate meanings. In the first instance they were considered as one turn taken by two or three people. In the second instance they were defined as two separate turns. It was noted that relatively few of the second type of covocalizations occurred.

Two sets of interactive episodes of 12 month old children were then examined in depth. The first set of interactions was used to illustrate the experience and abilities this prelinguistic child brings to the interaction and the aspects of the interaction that facilitate communication. These include: the importance of goal-directed behavior; social and communicative experiences the child amasses during the first year of life; the extensive exposure the child has acquired in highly systematic, familiar and constrained circumstances and the abstract nature of these relatively systematic interactions.

The second set of interactions were presented to demonstrate the way this triad dealt with joint attention. Six observations were made.

- 1) The possibility exists for one parent to miss a communicative behavior of the child and the other parent to pick up on it.
- 2) It is possible for another dimension of joint attention to exist where the child observes the parents achieving joint reference.
- 3) The triad can sometimes provide insight into the agenda of a parent regarding the scaffolding techniques being used.
- 4) The child in this interaction plays a role in involving the second parent in attaining joint attention.
- 5) The frame for referential communication can be set outside of the immediate interaction.
- 6) The triad may also provide a more challenging acoustic environment because the prosodic information will often vary depending on whether the speech is being addressed to the child or to an adult.

Chapter 4

The Direction of the Turn

This chapter explores the direction of the interactions that occur in the triad. Are there interactive characteristics that are different from the dyad? Some of these interactive differences are then discussed in the context of their possible developmental significance.

4.1 Defining the direction of the turn

Triadic interactions can be viewed as ever changing alliances among individuals in the group for the purpose of achieving individual or group needs. Members of the triad have the option of participating as an individual or in concert with other members of the triad. They can combine their efforts to exert pressure or extol praise or they can come together in mutual play and then move apart and function as an individual member of the triad or withdraw from the triad and function as a lone individual. Each individual's role in the interaction is constantly changing from a dominant player to a supporting player to an observer. As a result, each member of the triad has a variety of options available to him or her with respect to taking a turn. Similarly, the impact of the turn may be focused on one individual or the other two members of the triad or the direction of the turn may not be clearly defined.

Key (1980) suggests that:

language is primarily a system of accommodation, to get from one point in time to another point in time, and to get from one relationship or situation to another. (p.3)

This seems an appropriate description of the interaction occurring in the triad. Rather than analyzing the verbal utterances occurring in the interaction for

their syntactic or semantic characteristics it seems more appropriate to explore how members of the triad accommodate one another to maintain the relationship.

Defining the direction of the turn involved identifying where the turn originated and where it was intended to go. The turns seemed to fall into four different directional classifications. These included no direction, monadic, dyadic, double dyadic, and triadic turns. This is not meant to imply an all inclusive list of triadic interactions. There maybe other directions the turn can take but these were the only ones observed within this context and among these triads.

4.2 No direction turns

There are two types of no direction turns. These were some action turns and no response turns. No direction was assigned to action turns when an individual performed an action that was not part of the ongoing interaction and another member of the triad ascribed some meaning to the turn.

No	Type	Direction	Turn
102	ver/act	m to c	we'll try a little more cottage cheese /offers c spoonful/
103	act	c to m	/accepts spoonful/
104	ver	m to c	oh that's good
105	act	c	/reaches for dish/
106	ver/act	m to c	no no no no no /pushes hand away/

Subject 5-12

Example 4.1

Example 4.1 contains an action turn that has a direction and one that does not. Turn 103 is considered to have a direction because the child's action of accepting the spoon is in response to the mother offering the child the spoon. Turn 105 on the other hand does not have a direction because it is an independent action taken by the child that the parent acts upon in Turn 106. It is the parent acting upon the child's action which gives the action the status of a turn.

4.2.1 No direction action turns

The no direction action turns are of particular importance to some children because they frequently provide the opening for the child into the interaction. In fact, they often provide the substance on which to hang the interaction. Parents of 12 month old children are often very willing to act contingently upon the actions of the child. They comment on what the child is doing and change topic in accordance with the child's shift in attention (Harris, 1992; Harris, Jones & Grant, 1983; Messer, 1983). The following example illustrates how this nonverbal behavior with very little apparent

communicative intent provides the parents with something to which they can respond and helps them coordinate their interaction with the child.

No	Type	Direction	Turn
39	ver	m to c	how's that juice
40	nr	c	
41	ver	m to c	yum
42	nr	c	
43	ver	f to m	it would be like the other day where she drinks her bottle down and doesn't want anything else
44	ver	m to f	mm hmm
45	act	c	/drinks/
46	ver	m to c	pretty thirsty today?
47	ver	c to f	yum
48	ver/gest	f to c	mm hmm /nods head/
49	act	c	/drinks again/
50	ver	f to c	is that tasty?
51	act	c	/reaches for spoon/
52	ver/act	f to c	okay, have some more, I'll just take this away/moves bottle out of way/

Subject 9-12

Example 4.2

The no direction action turns occur in Turns 45, 49 and 51. None of these turns is particularly interactive on the child's part but the parents use them as the focus of the interaction. At Turn 51, the child reaches for a spoon and the

father then shifts the topic away from drinking to preparing to eat. The child reaching for the spoon precipitates the father's change of topic. Action behaviors that are repetitive like drinking provide an opportunity for a topic to be sustained and explored while involving the child in the interaction. There are 12 turns concerned with drinking juice that are sustained by the child merely taking a drink from her bottle.

This example also contains two no response turns. These turns usually follow a turn which requires a response. A pause is provided and the turn is not taken. Usually the individual requesting the response is not even acknowledged. The request is often repeated and a similar pause is left. This is the pattern followed in Turns 39 and 42 between the mother and the child. The mother provides the child with two clear chances to enter the interaction and the child does not take either one. It is the pause that occurs after the mother's question in Turn 39 that identifies this as a no response turn. In Turn 41, the mother answers her own question and the child fails to respond again.

The exchanges between the parents are also interesting and revealing because they provide information about parental concerns. In this case, the father is concerned that the child is not going to do anything other than drink her bottle throughout the interaction. This information is not available in the dyad unless the parent talks to the camera, or an observer in the room or confides in the child.

Sometime between two and four years of age children begin to realize that their thoughts and ideas are often different from those of other people (Locke, 1995). The following example illustrates how triadic interactions among parents and young children can provide opportunities for young children to

observe parents discussing their concerns and their perspectives of various situations. This type of discussion often seems to take place around several children's no response or no direction turns.

No	Type	Direction	Turn
9	ver	m to c	boy that's hard work eating isn't it
10	act	c	/c bangs spoon/
11	ver	f to c imp m	getting to hold the spoon is a new experience isn't that right Aubrey
12	ver	m to c imp f	no, Aubrey gets to hold a spoon

Subject 5-12

Example 4.3

The child is looking at the table and gives no indication that this act is meant to elicit any type of response from either parent. The father treats the spoon banging as a comment about the novelty of getting to use a spoon. The father's comment in Turn 11 brings the child into the interaction and results in the parents disagreeing over their perspectives of the child's experience with a spoon.

At 12 months of age, it is unlikely that the child is able to understand the parents differences in perspective but it is possible that he has some notion of a disagreement based on the mother's stress on the word "no" and the rising inflection that follows. It is also possible that the child may have some notion that the disagreement involves him because both parents use his name. As the child begins to process the interaction with more of an analytically grammatical approach, it is likely that the child will begin to realize that the parents are presenting different perspectives and often these differing

perspectives have something to do with him or her. When these differing perspectives are considered together with the role that goal directedness plays in early communication the saliency of understanding differing parental perspectives becomes more apparent as illustrated in the following example. The triad is capable of providing a contextually relevant environment for the child to observe parents presenting differing points of view relative to the child. As Donaldson (1978) points out:

(the child) first makes sense of situations ... and then uses this kind of understanding to help him make sense of what is said to him. (p.58)

Parents capitalize on this situation and use it to send one message directly to the child which is appropriate for the situation and the context and a slightly different message to the other parent. The most obvious example of the use of this directional turn is used to joke or to comment on the child's behavior. It is also used to convey directions to the other parent.

No	Type	Direction	Turn
203	act	c	/takes knife from m's hand/
204	ver	m to f	will you cut him one
205	ver	f to m	he wants to cut it
206	ver	m to f	I know but I don't want him to cut the whole thing

Subject 14-24

Example 4.4

The child in this example takes the knife out of the mother's hand in preparation for attempting to cut some cheese. The mother asks the father to cut the cheese and the father indicates that the child wants to cut it. The child

is sitting and watching and listening to this exchange. It is difficult to know how much he understands about the exchange between the parents but it is likely that he knows that he is being discussed, cutting the cheese is also being discussed and that a disagreement exists between his parents. An opportunity such as this provides the child with the chance to see that his parents do not always share the same ideas about meeting the child's expressed desires and this dissonance presents an opportunity for the child to differentiate parental attitudes concerning the achievement of his goals. In this case, the child does not act upon the expressed difference of parental opinion so it is not possible to determine his understanding of the exchange but it seems likely that exchanges of this nature play a role in the child learning to manipulate his parents to have his needs met and his desires gratified. This realization may ultimately contribute to the child recognizing that his and other people's perspectives may vary.

4.2.2 No response turns

There are three possible reasons for no response turns. 1) The child does not respond because he does not understand what is being requested of him. 2) The child does not realize that he is the one being addressed. 3) The child chooses not to respond. The first two reasons for no response turns are fairly straight forward and easy to recognize. The third reason is less obvious and is illustrated in the following example. Twelve month old children show a surprising degree of selectivity in terms of where and how they direct their attention.

No	Type	Direction	Turn
155	ver	m to c	Hannah
156	nr	c	
157	ver/act	m to c	what is this /holds up jello/
158	nr	c	
159	ver/act	m to c	what is this /continues to hold up jello/
160	ver/gest	c to m	ah /points to jello/
161	ver/act	m to c	what is that /holds up jello/
162	ver/act	c to m	ah hoh hoh /sticks finger in jello/

Subject 8-12

Example 4.5

In Turn 155, the mother tries to gain the child's attention by calling her. The mother then holds the jello up and she is still unable to attract the child's attention. These are clear examples of the child choosing not to respond. All that is required for a response from the child is a shift in the child's attention to Turns 155 and 157. This is certainly a realistic expectation of this child but she does not shift her attention. This selectivity on her part is significant because it indicates her autonomy in the interaction. The no response turn in this case can be viewed as a passive rejection of the mother's request for attention or as the child waiting to respond to something that is of interest to her. The child is not responding to everything she understands. She is making some choices of her own about whether or not to respond.

4.3 Monadic turns

Monadic turns consisted of a member of the triad addressing him or herself. This type of turn was quite rare. There were no monadic turns in the 12 month

old triad group. The three turns that occurred in the 24 month old group were taken by the fathers while the two turns in the 36 month old group were taken by the mothers. Monadic turns reflect an interactive difference that exists between dyadic and triadic interactions. When two competent communicators are involved in an interaction it is usually understood that each has a responsibility to keep the interaction going. However, when three people are involved in an interaction, the same pressure does not exist. It can be appropriate for one member of the triad to pull back from the interaction and amuse him or herself or make a comment to him or herself. The three monadic turns taken by the fathers involved a short withdrawal from the interaction. Two of the fathers sat back and either hummed or whistled to themselves. The third father leaned over and commented to himself about the food contained in the basket. All three of these examples follow a protracted period of interaction going on between the mother and the child. The monadic turns taken by the two mothers were somewhat different. They took the form of very brief comments directed to themselves. Monadic turns are characterized by having virtually no impact on the interaction.

Monadic turns involve an individual moving to the periphery of the interaction. This can occur when the other members are engaged in a protracted interaction and the third member chooses to function as an observer or when an individual's attention is directed away from the interaction and the individual comments to him or herself. These turns are often characterized by a posture shift with the individual sitting back or leaning over to focus attention elsewhere. They are often very quiet and have virtually no impact on the ongoing interaction.

4.4 Dyadic turns

Dyadic turns involve one member of the triad addressing another member of the triad. The intended impact of the turn is clearly directed at one other member of the triad. These turns can be verbal, action or gestural in nature.

Sometimes the addition of a gesture or an action to the interaction has the effect of giving the interaction direction.

No	Type	Direction	Turn
9	ver	m to c	boy that's hard work eating isn't it
10	act	c	/c bangs spoon/
11	ver	f to c imp m	getting to hold the spoon is a new experience isn't that right Aubrey
12	ver	m to c imp f	no, Aubrey gets to hold a spoon
13	gest/act	c to f	/bangs spoon smiles at f/
14	gest	f to c	/smiles back/
15	gest	c to f	/smiles at f/

Subject 4-12

Example 4.6

It is the turning and smiling at the father that gives this turn a sense of direction. The child has 8 turns throughout the interaction that involves him banging his spoon. Turn 10 does not have any direction attached to it but the other 7 occurrences are all marked by the child clearly looking up to one parent or the other. Turn 11 demonstrates to the child that banging his spoon on the table is an effective way of obtaining his parents' attention and he then continued to use this technique assigning a direction to the action by looking

or smiling at one parent or the other. As Feyereisen and de Lannoy (1991) point out referring to Traverthen's work:

from 8 to 12 months of age, the proportions of interactions involving both a social partner and object manipulation increases and that of purely social or purely manipulative interactions decreases. (p. 123)

The child, in this case, combines the manipulation of the object (banging the spoon) and the involvement of a social partner (looking and smiling at father) to attribute direction to the turn.

This example also illustrates one of the drawbacks associated with the collection of interactive sessions using audio tape. The nonverbal information that contributes to the direction of the turn is not available and therefore the direction of the turn may be ambiguous at best and incorrect at worst. The role nonverbal behavior plays in the development of the attribution of direction will also be overlooked.

There is one other type of dyadic turn observed. This involves a member of the triad addressing an inanimate object. There are two examples of this noted. In the first case the father addresses the video camera but it is the second example which is of interest here.

The second example of an individual using this type of directional move comes from a 36 month old child who addresses his stuffed toy cat.

No	Type	Direction	Turn
25	ver	f to m imp c	oh my doesn't that look good
26	ver	c to kitty	oh that for me oh no that's not for me that for me
27	ver	m to c	yeah

Subject 16-36

Example 4.7

It is likely that the father has given the child this idea because he asks the child what his cat would like to eat several turns back. It is clear from the child's upward shift of pitch and gaze that he is clearly addressing his toy cat. This behavior is consistent with that described by Sachs and Devin (1976) who demonstrated that four year old children addressing dolls used a different pitch register and tended to use simple phrases with considerable repetition. Dunn and Kendrick (1982b) reported differences in the speech two and three year olds addressed to younger siblings. This speech was characterized by repetition and the use of attention getting devices. They suggest that children make these adjustments based on their perception of the reduce linguistic capacity of the younger child that is being addressed. It is possible that the child in the above example is making a similar accommodation for his toy cat in an imaginary play context.

Dyadic turns are quite easy to define. They occur between mother and child, father and child and mother and father or between one member of the triad and an object. They are the most common direction for the turn to take.

4.5 Double dyadic turns

There were two types of double dyadic turns observed. The first type involves a member of the triad addressing the other members of the triad. In some cases, these turns are clearly directed at the other two members of the triad as illustrated in Example 4.8.

No	Type	Direction	Turn
77	ver	m to f&c	mmm who wants milk
78	ver	c to m	me

Subject 16-36

Example 4.8

The linguistic content in this example indicates that Turn 77 on the part of the mother is addressed to both the father and the child. The child picks up on her question and responds.

There are also situations where the direction of the turn is ambiguous. The turns seems to be thrown out for either of the other two members to act upon.

No	Type	Direction	Turn
72	ver	f to m	what else is in there ? ?
73	ver/act	m to f	mmm, help yourself /points to basket/
74	ver	c to m&f	apple, apple
75	ver	m to f	do, he wants the apple

Subject 14-24

Example 4.9

In this example, the child does not give any indication as to whom he is addressing his request for an apple. His mother, however, picks up his request and interprets it for the father.

These turns are distinguished from no direction turns because they are intended to communicate something. This intent is not apparent with no direction turns. It is another member of the triad who attaches the meaning to the behavior.

The second type of double dyadic turn occurs when two members of the triad simultaneously address the third member of the triad. This type of double dyadic turn took several forms. One of these involves co-vocalizations and one involves latched utterances as describe by McTear (1985).

Parents use these double dyadic turns when they are trying to control the child's behavior.

No	Type	Direction	Turn
92	ver/gest	f to c	we don't have to open all of them we already have one right here /points to open pack/
93	ver	c to m&f	more/points to cheese/
94	ver	m&f to c	(I know) (there's lots more) leave them for the other kids though
95	ver/gest	c to m&f	yes do /points to cheese/
96	ver	m&f to c	(yeah) (mmhmm)
97	ver/gest	c to m&f	more /points to cheese/
98	ver	m&f to c	(yeah) (uh huh)

Subject 10-24

Example 4.10

The child in the above example wants to open another package of cheese and the mother and father will not let him. The child is getting quite irritated by this and the parents are trying to hold their ground and at the same time keep the child from throwing a tantrum. In Turn 96, they come together and acknowledge that the child might want more cheese. The child then points to the open package of cheese and the parents eagerly agree that he may have some. Turns 96 and 98 are unison turns and they reflect the parents working together.

Sometimes double dyadic turns take the form of latched turns. These are characterized by two individuals rapidly alternating turns with the change in speaker usually coming at the end of a phrase. The intent of the phrases needs to be similar for each of the phrases that make up the turn.

No	Type	Direction	Turn
300.	ver	m&f to c	{careful} { honey slow down cause you're going to get it all over you}
302.	ver	c to f	hm I'm going to eat it all of it

Subject 21-36

Example 4.11

In this example, the parents take the same turn to try and control the child's behavior. The father's utterance of "careful" is followed very quickly by the mother's explanation of the consequences. There is no opportunity for anyone else to take a turn and the intent of the two utterances is very similar.

The following example illustrates the combined use of a verbal behavior from one member of the triad and a nonverbal behavior from the other member of the triad to make up the double dyadic turn.

No	Type	Direction	Turn
152	ver/act	m&f to c	Aubrey /f puts spoon in c's mouth/
153	act	c	/opens mouth/

Subject 4-12

Example 4.12

In Turn 152 the mother and father worked together to get the child's attention and accept of mouthful of food. The father's action and the mother's verbalization combine to form the turn.

The third type of double dyadic turn occurs when two members of the interaction simultaneously address one another.

No	Type	Direction	Turn
140	ver/act	f to m	then again, this kind of looks like its you know, for someone his age /opens container/
141	ver	m&f to m&f	/laugh/
142	ver	m to f	I'm fine, Aubrey can eat it

Subject 4-12

Example 4.13

In Turn 141, the parents laugh together because the father is looking for something else to eat and he realizes he is eating something that is meant for the child. Parents laughing with one another is the most common form for this turn type to take.

4.6 Triadic turns

There were five different types of triadic interactions observed. The first of these took advantage of the differences in linguistic competence among the members of the triad. The nature of these turns did, however, show some change from 12 months to 36 months. At 12 months, children in this sample did not respond to them other than perhaps to observe what the parent was doing or saying. At 36 months there were occasional attempts on the part of the parents to include the child in this type of interaction or else the child decided on his or her own to enter the interaction.

The following example illustrates the typical way 12 month old children deal with this type of triadic interaction.

No	Type	Direction	Turn
35	ver	m to c	mm there now Aubrey can see, that's an elephant, oh you just leave that one down there
36	ver	f to c imp m	daddy's a little less particular than mom
37	nr	c	
38	ver	m to f	oh no he's going to lean over there and go get it and then I'll go ?

Subject 4-12

Example 4.14

In Example 4.14, the father addresses the child in Turn 36 but the information the turn contains is really meant for the mother. The child just lets it go by and the mother then comments to the father. The father in effect is carrying on a conversation with the mother through the child.

One way to consider these turn types is in terms of Locke's (1995) proposed preadaptations for the learning of language. He suggests that initially the infant relies on a specialization in social cognition (SSC) to achieve a working vocabulary. The process of language learning during this period encompasses behaviors such as turn taking, shared gaze, vocal accommodation and contingent vocal responding generally involving the infant and the primary caregivers. This specialization in itself is not enough for the child to proceed to the use of a sophisticated linguistic system. This requires a second specialization and that is an analytical system or grammatical analysis module (GAM) which deals with grammatical rules and representations. The GAM

normally emerges somewhere between 20 and 30 months. It is possible in terms of this conceptualization that the 12 and 24 month old children are responding to the social aspect of the interaction contained in the context and conveyed by the prosodic and facial information displayed in the interaction. The attending parent on the other hand is responding to the syntactic, semantic, phonetic and lexical information contained in the turn.

The following example illustrates the way one 36 month old child dealt with this type of turn. He realizes there is something absurd about the father's comment and does not therefore let the turn go unchallenged.

No	Type	Direction	Turn
385	ver/act	f to c	(can you) eat one at a time /takes one sandwich away from c/
386	ver	c to f	mhmh
387	ver	f to c imp m	leave half for the baby Snufolufogus
388	ver	m to f	/m laughs/
389	ver	c to f	mhmh
390	ver	f to c	then you can eat the other one
391	ver/gest	c to f	he can't eat the other one no /shakes head/
392	ver	f to c	well he might if you don't hurry up and get to it
393	ver	m to f	/ m laughs/
394	ver/gest	c to m&f	and we don't eat Snufolufoguses /shakes head/

Subject 16-36

Example 4.15

Initially the child agrees with the father about leaving half of his sandwich for the Snufolufogus he then reflects on this and disagrees with his father. He then takes the issue farther and tells his parents that you don't eat them either. He does not perceive the father's remarks as a joke the way the mother does, instead he comments on the truth of the father's statements. This example would tend to suggest that this child is processing the father's utterance in a more grammatically analytical manner than the 12 month old in the previous example. He is able to extract the literal meaning of the utterance although he misses the humorous component. He addresses his comment in Turn 394 to both parents suggesting that he does understand that the father's previous turns involved his mother as well as himself.

Repair strategies are sometimes carried out through this type of turn.

No	Type	Direction	Turn
89	ver/act	c to f	here dad there /gives f spoonful/
90	ver/act	f to c	m m /accepts spoonful/
91	ver	m to c imp f	what should daddy say
92	ver	f to c	thank you

Subject 21-36

Example 4.16

Parents tend to emphasize the importance of the use of "please" and "thank you" particularly with the 36 month old children. It is possible however that this is an artifact of being observed. In this example, the child feeds the father and the mother points out to him that he has not said "thank you" by

addressing the child. The father then responds appropriately. The mother in this case is presenting the child with an opportunity to suggest an appropriate repair for the father. The child does not respond but the father does providing the child with a chance to see how to deal with this kind of repair situation. Directing the question to the child has the effect of involving the child in the interaction and encouraging her to recall and evaluate what the father has said.

The triad occasionally provides an opportunity for parents to take turns for the child when the child fails to take the turn.

No	Type	Direction	Turn
40	ver	f to c	you're doing pretty good for just sitting in that chair
41	nr	c	
42	ver	m for c to f	its eating time daddy

Subject 4-12

Example 4.17

In Example 4.17, the father praises the child for staying in his chair. The child does not respond and the mother then fills in the child's turn giving an explanation for the child's lack of response. This type of situation provides the child with an opportunity to observe what an appropriate response to the father's comment would be (even though it is probably beyond the child's current linguistic competence).

Shifting the direction of the turn part way through the turn was also considered a triadic interaction. Even 12 month old children used this type of triadic turn.

In this case, it is usually used to move away from a member of the triad who is trying to make the child do something he or she does not want to do.

No	Type	Direction	Turn
44	ver/act	f to c	crackers do you like cheese with your crackers /holds up yogurt spoon/
45	ver	c to f	yeah
46	ver/act	f to c	yeah /tries to feed more yogurt to c/
47	act	c to f shift m	/turns away from f toward m/
48	ver	m to c	mm hmm
49	ver/act	c to m	wow /holds up cracker/
50	act	f to c	/holds up spoon to c/
51	nr	c	

Subject 8-12

Example 4.18

The father is trying to get the child to eat some yogurt and the child turns away from the father toward the mother. The mother then addresses the child and the child responds. The father tries to re-engage the child in Turn 50 and the child does not respond. These interactions are very context bound and as a result it is difficult to tell whether the child is redirecting the interaction or whether she is just turning away from the food. This is not really the issue here. The important thing is that the child turning her head has the effect of shifting the interaction away from the father and toward the mother. The father tries to re-enter the interaction at Turn 49 and the child essentially keeps him out of the interaction by not responding to him. It is certainly possible that interactive exchanges such as this provide an opportunity for the young child to exercise some autonomy and as a result learn something about the role

directing the turn may play in goal attainment. In a more rudimentary sense, attraction and aversion may play a motivating role in the development of the ability to direct the turn.

The inclusion of actions and gestures as legitimate behavioral turns meant that it was possible for an individual to take a turn which involved two different interactions occurring with the other members of the triad.

No	Type	Direction	Turn
167	ver	f to m	he's sucking on it
168	ver/gest	m to flc2	He loves ?those things all on his spoon /offers c food and smiles/
169	act	c	/accepts food/

Subject 5-12

Example 4.19

In this example, the mother is feeding the child and smiling at him while she is talking to the father about what the child likes. This sort of turn provides an opportunity for the child to overhear the comments the mother is making to the father about the child and what the child doing. It allows the child to hear himself referred to in the third person with respect to where the child has his attention focused.

Occasionally all 3 members of the triad would come together in unison. This usually happens after a game sequence.

No	Direction	Type	Turn
34	m&f&c	ver/gest	cheers /c &f touch cups/

Subject 12-24

Example 4.20

The child has been playing "cheers" with her parents for several turns before this and in Turn 34, all three members of the triad come together and exclaim "cheers".

4.7 Summary

This chapter described four different classifications for the direction of the turn. It was pointed out that this was not an all inclusive classification but based instead upon the interactions observed. No direction, monadic, dyadic, double dyadic and triadic were described. There were two different types of no direction turns reported. No direction turns included action turns that had meaning assigned to them by another member of the triad and no response turns. No direction action turns were particularly important for the younger child. The point was made that these turns often defined and maintained the topic of conversation for the parents. It was suggested that the triad provides an opportunity for the child to observe the parents demonstrating different opinions concerning something the child wants and that exposure to this type of experience may be of importance to the child in helping him or her to recognize that different people may have different perspectives. Examples of no response turns were presented to suggest that even some of the very young children were demonstrating some selectivity in terms of their willingness to respond to requests for attention from their parents.

Monadic turns involved a member of the triad addressing a comment to him or herself. These turns occurred rarely and were not taken by children. They took the form of a parent sitting back and singing or whistling or address very short comments to ones self.

Dyadic turns were the most common turns to occur in all of the interactions. They involved one member of the triad addressing another member of the triad or an object. Gestures and actions can play a role in defining the direction of the turn. An example of a child addressing his toy is presented to illustrate how he changed his interactive style to address the toy. An argument can be made to suggest that this child's change in style may reflect the child's ability to make some assumptions about the communicative competence of another person or object.

Double dyadic interactions fell into two different types. They involved one member of the triad clearly addressing the other two members of the triad. This was contrasted with double dyadic turns where the turn was just thrown out and it was up to one or both of the other members of the triad to give the turn direction. This double dyadic turn appeared to be most prevalent with the younger children suggesting that these children may not yet have mastered the ability to clearly define who they were addressing much of the time. This issue will be examined in more detail in Chapter 9. The third type of double dyadic turn involved two members of the triad joining forces and taking a single turn and addressing it at the third member of the triad. It was usually the parents who took this type of turn and address it to the child to exert pressure or praise. Parents and children also combined action or gesture with the interaction of another member of the triad to take double dyadic turns.

Triadic turns took several different forms. One form involved one member of the triad directing two different messages to the other two members. None of the children in this study used this form however there were examples of 36 month old children responding to these turns. It is suggested that the 12 month old and 24 month old children may be responding to social and contextual components of these turns while the 36 month old child in this example is attempting to respond to the semantic content of the turn.

Parents were also observed to take the turn for the child. This also was most obvious with the younger children. This provided opportunities for children to experience turns directed to them but successfully completed by another member of the triad. Children also had a chance hear themselves discussed in the third person while they were involved in the interaction under discussion.

Another form triadic turn consisted of a shift in direction of the turn. This form was observed to be taken by even 12 month old children. It occurred when children would turn away from one parent who was usually offering food to the child and it was speculated that attraction and aversion may play a role in assisting the child develop the ability to attribute direction to the turn.

The final form also involved the child and usually appeared at the end of a game or format. In this case, all of the members of the triad came together in a joint or unison turn.

Examples were presented for the types of directional turns which fell within each of the classifications and some developmental issues were raised with respect to interactive situations that are different from those occurring in the dyad because of the presence of a second competent communicator.

Chapter 5

Participation in the Triad

This chapter examines the participation of the triad members and the behaviors which comprised the interactions. The following questions are addressed. Were all members of the triad provided with an equal opportunity to enter the interaction? Do parents and children have the same opportunity to interact in the triad in the three age groups? Are the behaviors that make up the turn the same for parents and children in the three age groups? Do parents and children adopt the same behavioral interactive style in the three age groups?

5.1 Turn opportunities in the triad

Once it had been decided what behaviors made up the turn and where the turn boundaries were located, it was possible to examine who took the turns. A number of studies have investigated the relative participation of mother, father and child in triadic situations. Golinkoff and Ames (1979) found that fathers used half as many utterances as mothers with a group of 19 month old children in a triadic, free play situation, however, they found very little difference in the number of mothers' and fathers' utterances in a structured dyadic setting. They concluded that mothers took the dominant role in the triadic situation because it was a free play activity that required more coordination of behavior than the structured play situations used in the dyadic interactions. Stoneman and Brody (1981) questioned this conclusion and repeated the study using the same play activity across the three interactive situations with 18 children 24 months of age. They found that fathers' participation was very similar to mothers' participation in the dyadic situation but significantly lower in the

triadic situation. They concluded that the drop in the relative participation of the fathers is related to characteristics of triadic interaction rather than whether the activity was structured or free-play in nature. Rondal (1980) reported that mothers produced more speaker changes than fathers in a variety of settings when interacting with first born boys between the ages of 18 and 36 months of age but the largest difference occurred in the triadic situation. Davidson and Snow (1996) in their study of mother, father, child interactions with five year olds found that fathers took fewer turns than mothers in a triadic mealtime situation while they took a similar proportion of turns as mother in a dyadic play situation.

These findings would tend to suggest that differences between dyadic and triadic interactions involve more than merely a reduction in participation of each member of the interaction to accommodate a third participant. Stoneman and Brody (1981) proposed that fathers may take on a playmate role while mothers assume the role of overseeing and supervising the situation. In the case of a feeding situation, it is obvious that mothers also tend to take on the role of managing the activity.

These studies have involved children ranging in age from 18 months to five years of age. Although these studies suggest that mothers tend to take a more active role in the triad, it is possible that differences may exist in relative participation as children develop.

The point has already been made that verbal utterances are only one component of the interaction among parents and their young children. Nonverbal behaviors such as conventional communicative gestures and object manipulation may provide important information about parent-child

interaction particularly with younger children. It is well documented that these nonverbal behaviors frequently precede the use of the vocal form of the behavior (Caselli, 1990; Feyereisin and deLannoy, 1991; Goodwyn and Acredolo, 1993; Mazur, 1993). Messer (1981) indicated that the interface between verbal and nonverbal behavior may play an important role in enabling the young child to crack the linguistic code. Nonverbal behavior was included in this study because it is an important aspect of the young child's interaction strategies and because it provides useful information about the child's interactive ability in the triad.

It is also necessary to take into consideration the importance of the context. Given the fact that parents knew they were being videotaped with their child, it can be assumed that parents would try and create an environment that was conducive to showing the child in the best light. This meant that parents paid considerable attention to the child and made a special point of encouraging communication from the child (Russell, et al. 1992).

The term turn opportunity (TO) is used here to describe the chance created for or taken by each individual member of the triad. It is made up of verbal, gestural and action turns or combinations thereof as well as no response turns. It was possible then to compare the proportion of turn opportunities available to the parents and children in the 12, 24 and 36 month old age groups.

The proportion of turn opportunities available to each member of the triad was computed for mother, father, and child in the 12, 24 and 36 month old age groups. The mean proportion of turn opportunities and standard deviation of the TOs for each age group and are shown in Table 5.1. 1.

Table 5.1.1
Mean and Standard Deviation for Proportion of Turn Opportunities Available
to Each Member of the Triad for the Three Age Groups

	Mother	Father	Child	Joint
12 Months				
Mean	0.37	0.24	0.37	.02
Standard Deviation	0.06	0.07	0.05	.02
24 Months				
Mean	0.35	0.26	0.36	.02
Standard Deviation	0.06	0.07	0.05	.02
36 Months				
Mean	0.33	0.26	0.40	.01
Standard Deviation	0.08	0.08	0.03	.01

Joint turns occurred fairly infrequently and therefore will not be discussed at this juncture.

Considerable variability existed among the proportion of TOs available to mothers and fathers for the three age groups. The only consistent difference occurred in the 12 month old age group where fathers had fewer turn opportunities than mothers or children in all six triads. It is possible that this is related to the amount of care giving the child requires at 12 months of age. In all six triads, it was the mother who took charge of the feeding. This finding is consistent with the results of a study conducted by Belsky (1980) who found that mothers were more responsible for care giving activities than fathers with young children. Feiring and Lewis (1987) also found in their

study of family meal routines that mothers were the persons most likely to take charge of the meal.

The mean proportion of TOs available to mothers in each of the three age groups did not vary greatly. The same held true for the mean proportion of turn opportunities available to fathers in all three age groups. There was one father of a 24 month old child however who had a higher proportion of turn opportunities than the mother and two fathers of 36 month old children had more turn opportunities than the mothers. The mean proportion of children's utterances however did show an increase at 36 months over that at 12 and 24 months.

Figures 5.1.1, 5.1.2 and 5.1.3 show the proportion of turn opportunities available to members of the triad for the three longitudinal triads that were videotaped at 12, 24 and 36 months. The overall impression from watching these families suggests a difference in the interaction style. In Triad 1, the parents work together to encourage the child to interact and comply with their requests. They discuss the day's events with one another and enjoy their food. Triad 2 has a different feel to it. The child is often not very compliant the father tries to joke with the child while the mother tries to feed him. Triad 3 is different again. The mother feeds the child and talks to her while the father observes and assists when needed. The three longitudinal triads demonstrate three different styles with respect to turn opportunities.

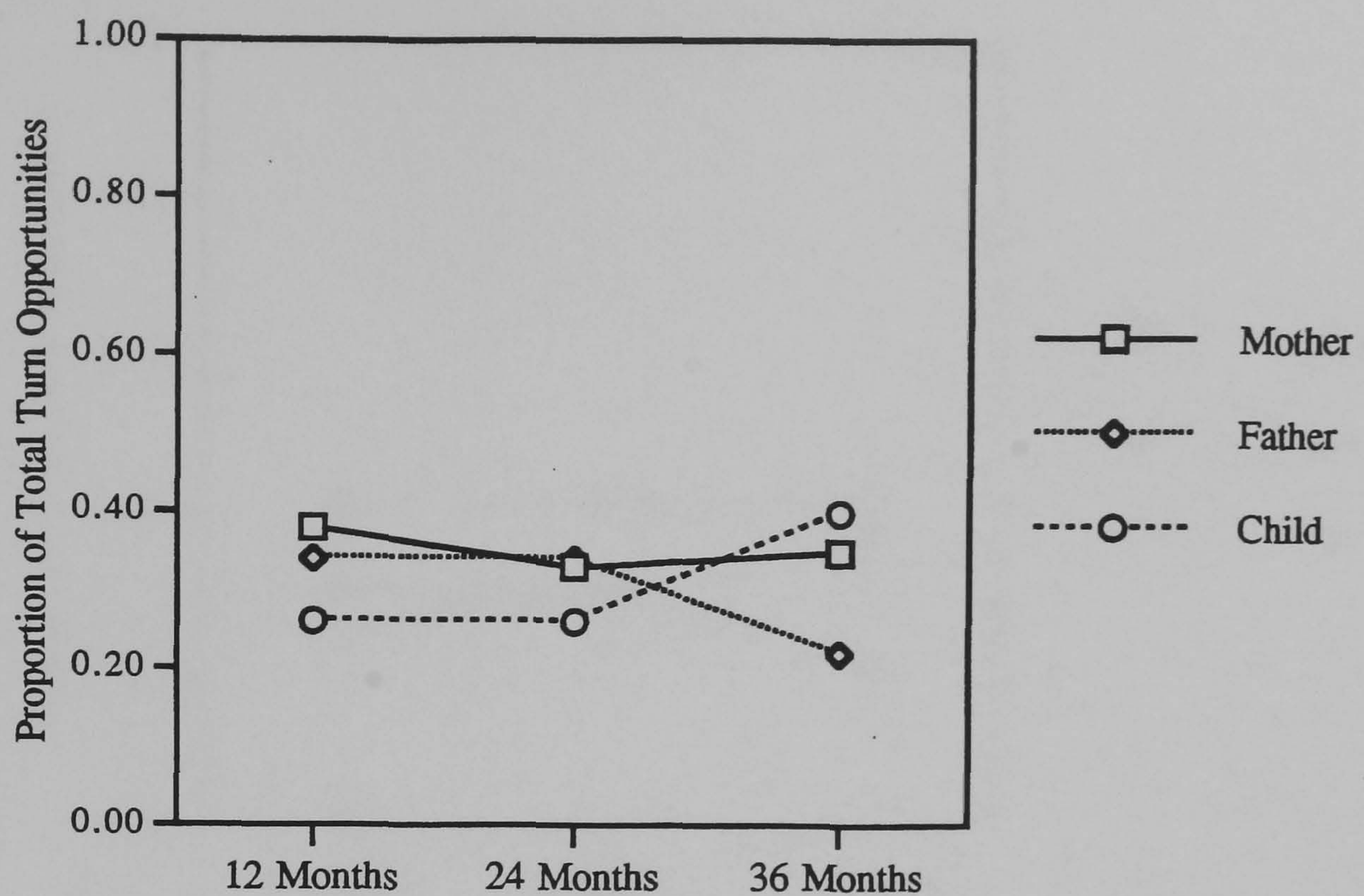


Figure 5.1.1 The proportion of total turn opportunities available to mother, father and child at 12, 24 and 36 months in Triad 1.

The turn opportunities available to the mother in Triad 1 remains fairly constant for all three ages. The father's turn opportunities are similar to the mother's at 12 and 24 months but decrease at 36 months. The child's turn opportunities are less than the mother's and the father's at 12 and 24 months but increase rather dramatically at 36 months.

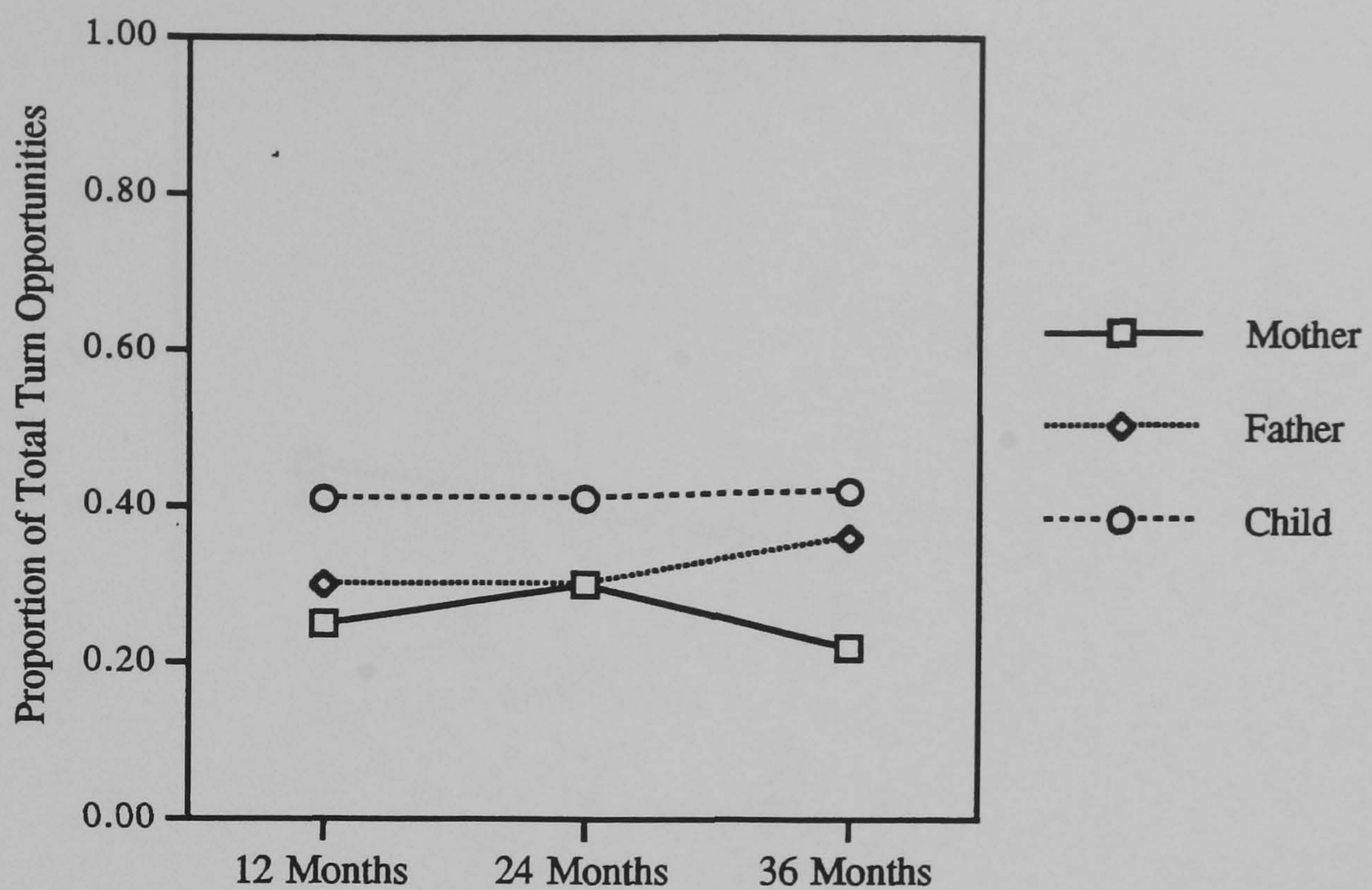


Figure 5.1.2 The proportion of total turn opportunities available to mother, father and child at 12, 24 and 36 months in Triad 2.

The child in Triad 2 has the most turn opportunities at all three ages while the mother and father have fewer but similar turn opportunities at 12 and 24 months. At 36 months, the father's turn opportunities increase and the mother's decrease.

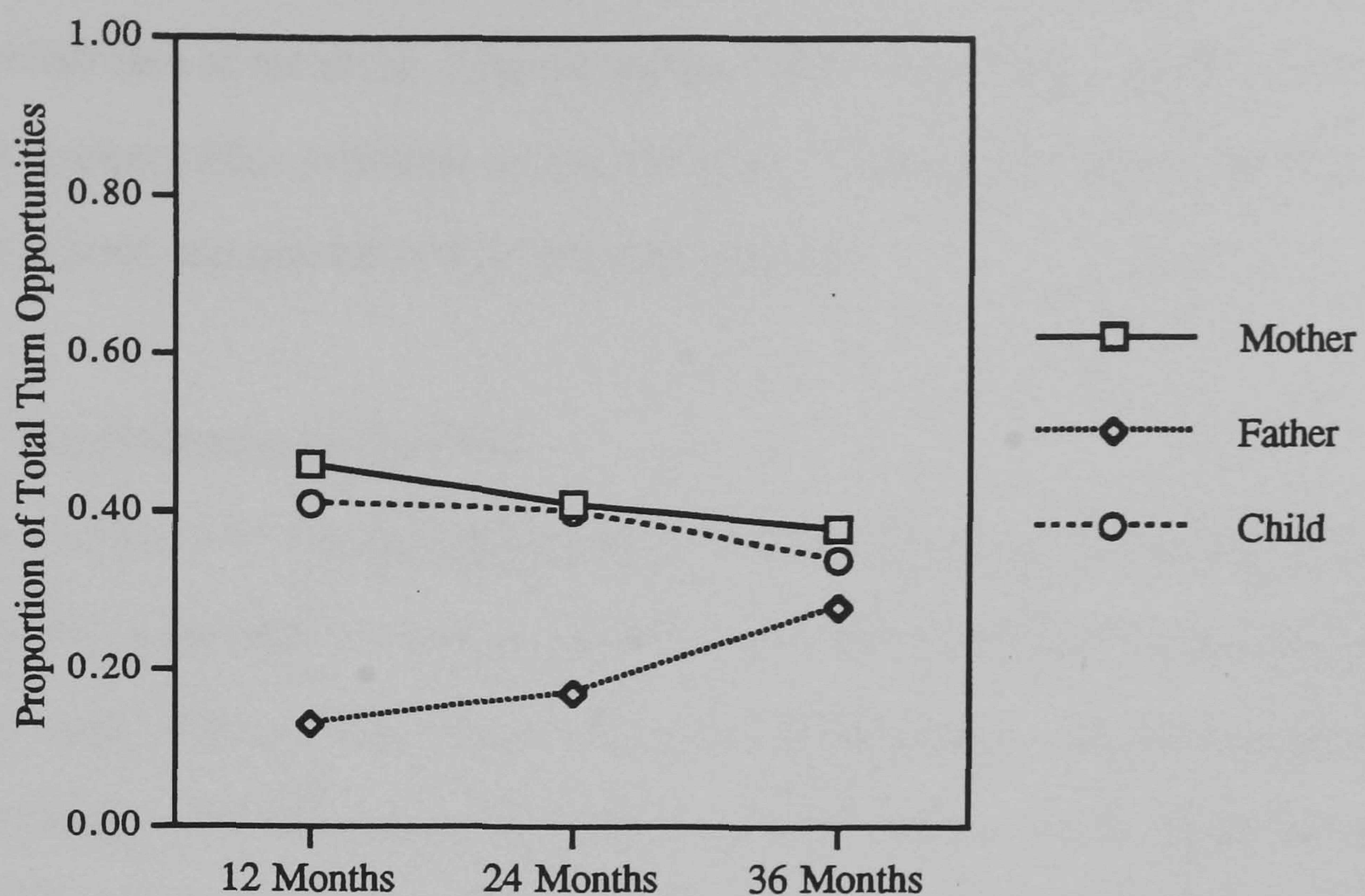


Figure 5.1.3 The proportion of total turn opportunities available to mother, father and child at 12, 24 and 36 months in Triad 3.

The mother and the child in Triad 3 have the most turn opportunities at all three ages while the father has the least turn opportunities. His proportion of turn opportunities approaches the mother's and the child's at 36 months.

The proportion of turn opportunities available to mothers and fathers differed among the triads. The parents had a similar proportion of turn opportunities in Triads 1 and 2 at 12 and 24 months with a greater difference occurring between parents at 36 months. In Triads 1 and 3, the mothers had more turn opportunities than the fathers. In Triad 2, however, the father had more turn opportunities than the mother at 12 and 36 months. This variability in turn opportunities available to parents is consistent with the variability that existed in the three groups of six triads. Suggesting that relative turn opportunities

available to parents may be affected more by the immediate situation and individual style adopted by a triad than the age or communicative development of the child. The interesting observation here is the proportion of turn opportunities available to the children. Even at 12 months the children had at least one quarter of the turn opportunities.

5.2 Participation in the triad

It is evident from the data presented on turn opportunities that young children are given a substantial number of chances to enter the triad. The next question to be asked then is whether they take these opportunities. Means and standard deviations were calculated for the number of turns actually taken by each member of the triad. Participation in the triad was determined by subtracting the number of no response turns and joint turns from the total number of turn opportunities. The proportion of the number of turns taken (TT) was then established for each member of the triad. These data are presented in Table 5.2.1.

Table 5.2.1
Mean and Standard Deviation for Proportion of Turns Taken by
Each Member of the Triad for the Three Age Groups

Age	Mother	Father	Child
12 Months			
Mean	0.40	0.26	0.31
Standard Deviation	0.07	0.08	0.05
24 Months			
Mean	0.38	0.28	0.31
Standard Deviation	0.08	0.08	0.06
36 Months			
Mean	0.34	0.26	0.38
Standard Deviation	0.09	0.08	0.04

There is very little difference between the mean proportion of parental turn opportunities and parental turns taken. There is considerable variability within the triads in each age group so no clear conclusions can be drawn from these data. The differences that do arise between turn opportunities and turns taken for mothers and fathers reflect the removal of joint turns rather than no response turns. The interesting change is the difference between turn opportunities and turns taken by the children. At 12 and 24 months the mean for turn opportunities was .37 and .36 respectively while the mean for turns taken was .31 for 12 and 24 months of age. These data suggest there is very little difference between 12 and 24 months with respect to the turn opportunities parents present. Children at 36 months, however, appear to be taking more of the turns offered to them. These findings are consistent with those of Barton and Tomesello (1991) who found that 19 month olds and 24

month olds participated approximately one third of the time when interacting with their mothers and preschool siblings.

In this study, the proportion of turns taken is very close to the proportion of turn opportunities by 36 months. The rather large standard deviations for all the participants at all three ages reflects a considerable degree of variation within the population.

5.3 The behaviors that occurred in the interaction as a function of the age of the child

The next level of analysis required examining the behaviors that made up the interaction. The proportion of turn types for each triad was calculated by dividing the number of occurrences of each turn type by the total number of turn opportunities for the triad. Verbal, gestural, action, verbal/gestural, verbal/action, gestural/action and no response turns were obtained for the six children in each age group. The mean was determined and the findings are illustrated in Figures 5.3.1, 5.3.2 and 5.3.3.

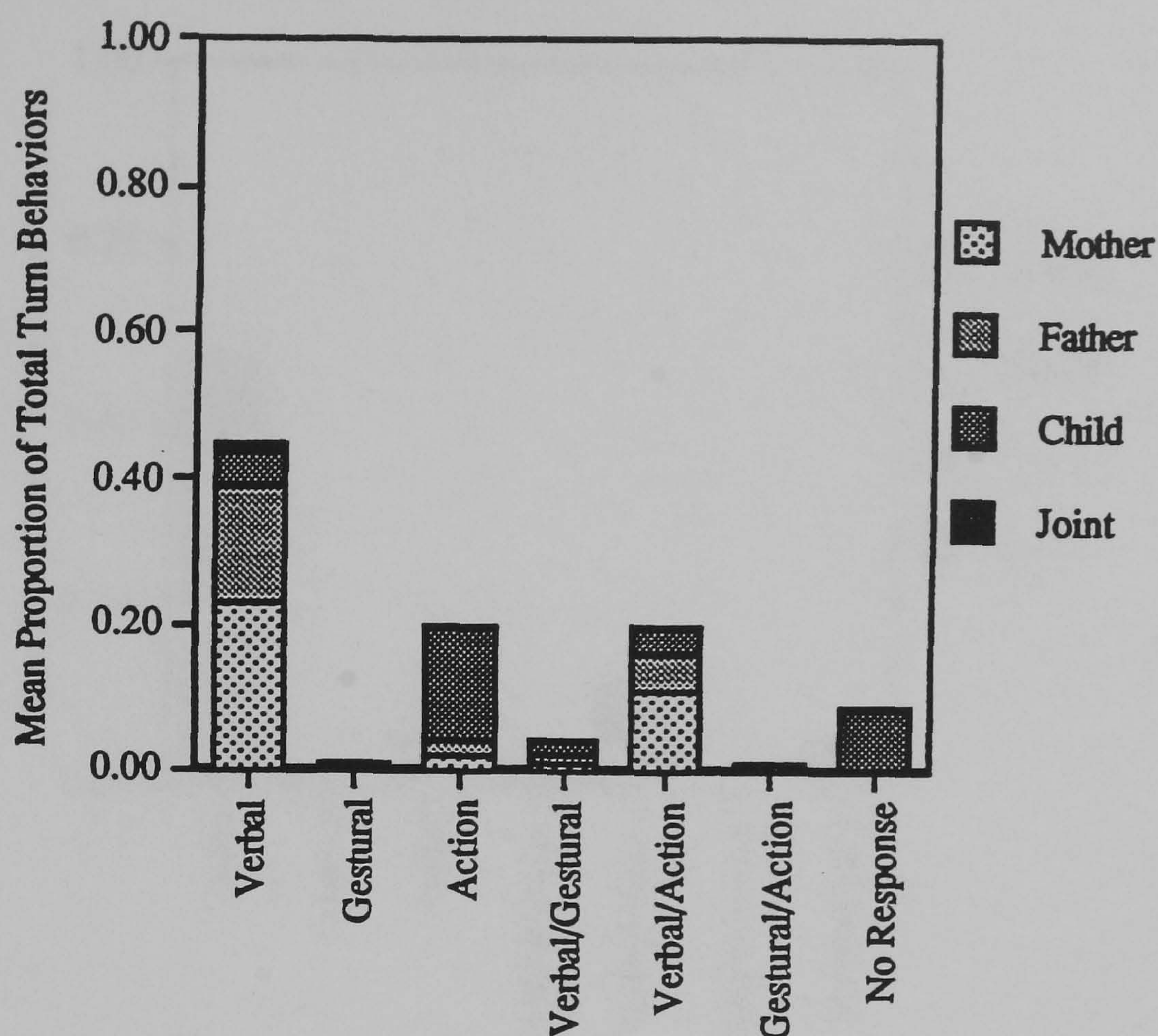


Figure 5.3.1 The mean proportion of total behavior constituting the turn for 12 month old children and their parents.

Verbal turns comprised the majority of turns for the parents while action turns were the most common form of turn for the children. Verbal/action turns were the second most common type of interaction used by parents. No response turns were the next most frequently used turns of the children. All of the no response turns were taken by the children. Turns with a gestural component occurred infrequently.

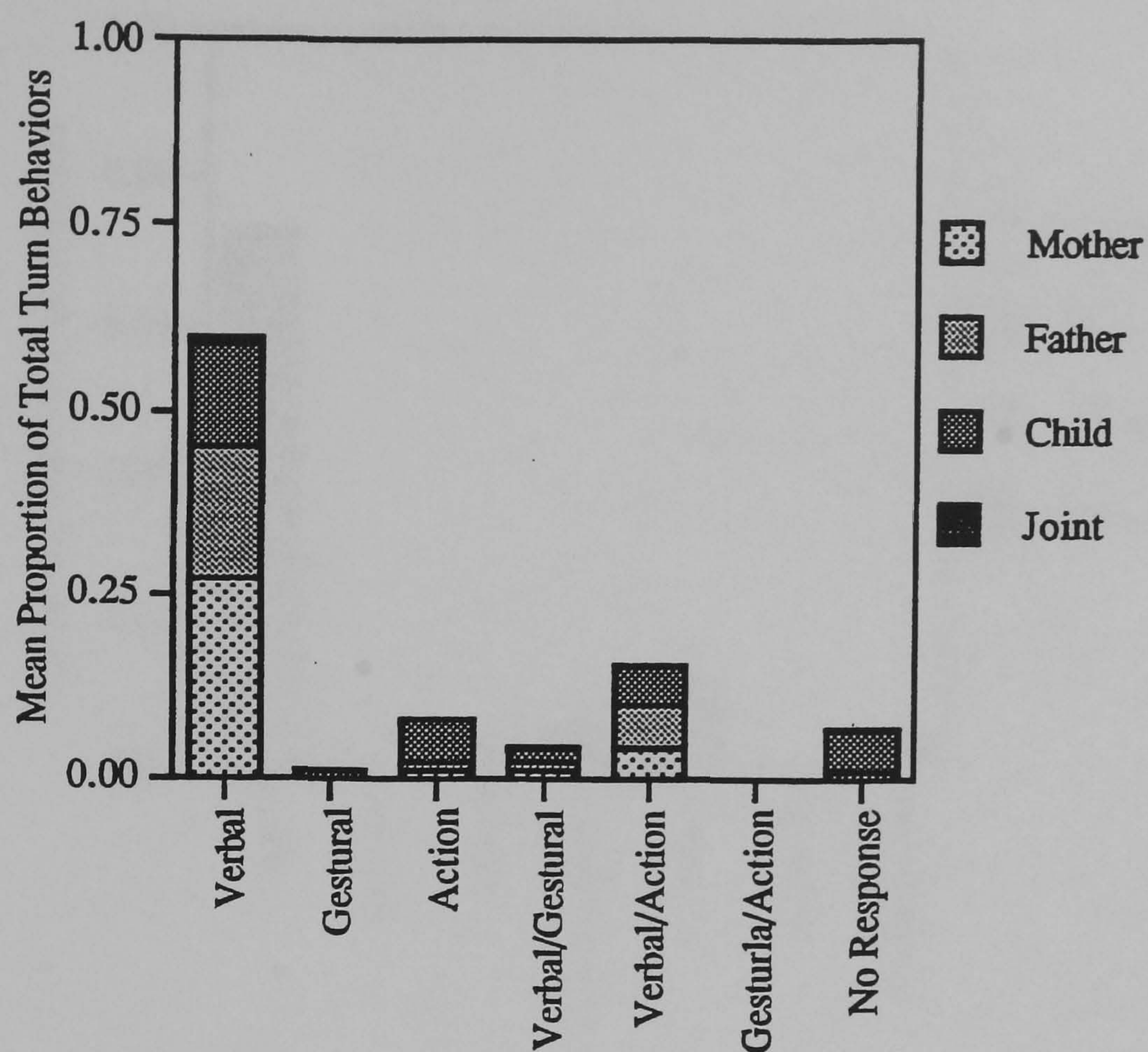


Figure 5.3.2 The mean proportion of total behavior constituting the turn for triads of 24 month old children and their families.

The mean proportion of verbal turns increased for all triad members in the 24 month old group when compared with the 12 month old group. The mean proportion of action turns decreased while the mean proportion of no response turns increased slightly and the proportion of verbal/action turns decreased slightly for mothers and remained fairly constant for fathers.

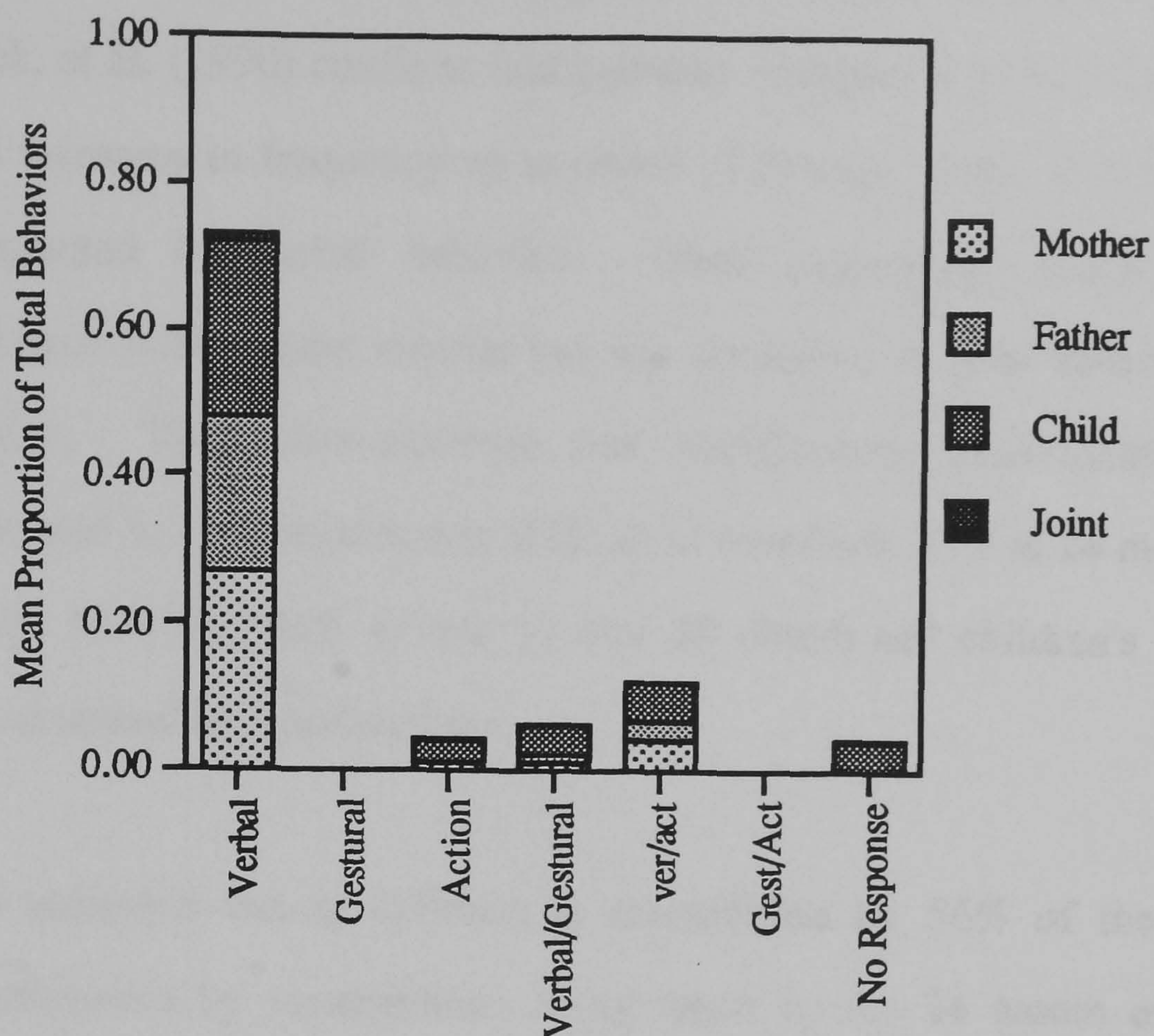


Figure 5.3.3 The mean proportion of total behavior constituting the turn for 36 month old children and their families.

Verbal behaviors made up the largest mean proportion of the turns for all three age groups and the mean proportion of verbal turns did increase from 12 to 24 and from 24 to 36 months. Most of this increase was due to an increase in the use of verbal turns on the part of children. The mean proportion of children's actions turns on the other hand decreased from 12 to 24 months and from 24 to 36 months. Gestural and gestural/action turns made up a small mean proportion of the behaviors. The mean proportion of no response turns decreased slightly from 12 to 24 to 36 months.

Gestural turns occurred infrequently and from this point on they will be combined with action turns. As mentioned in Chapter 3, gestural turns generally took the form of smiles, nodding and shaking the head and pointing.

The most interesting of these gestures is the use of pointing on the part of the child. A study with a large sample of 140 mother child pairs conducted by Lock, et al. (1990) confirms that pointing emerges at about 10 months of age and increases in frequency up to about 18 months of age. It is then gradually supplanted by verbal behavior. These researchers found considerable variation within their sample but felt confident in their description of this pattern. They also reported that vocalizations accompanying pointing increased from approximately 50% at 12 months to 85% at 24 months. In this study, 64% and 84% of the 12 and 24 month old children's pointing was accompanied by vocalizations.

The variation among children is exemplified by 56% of the total points accompanied by vocalizations being taken by the 24 month old age group were taken by one child. This child who the most difficult to understand in the group of 24 month old children. It might be that the pattern for development for the use of gesture was a little slower for him or it could be that he was using the pointing to help his parents to understand him.

5.4 The behaviors that occurred in the three longitudinal triads

The data presented in Figure 5.4.1, 5.4.2 and 5.4.3 are for the three children seen at 12, 24 and 36 months. As previously mentioned there were very few gestural or gestural action turns so these were combined with action turns and verbal/gestural turns were combined with verbal/action turns.

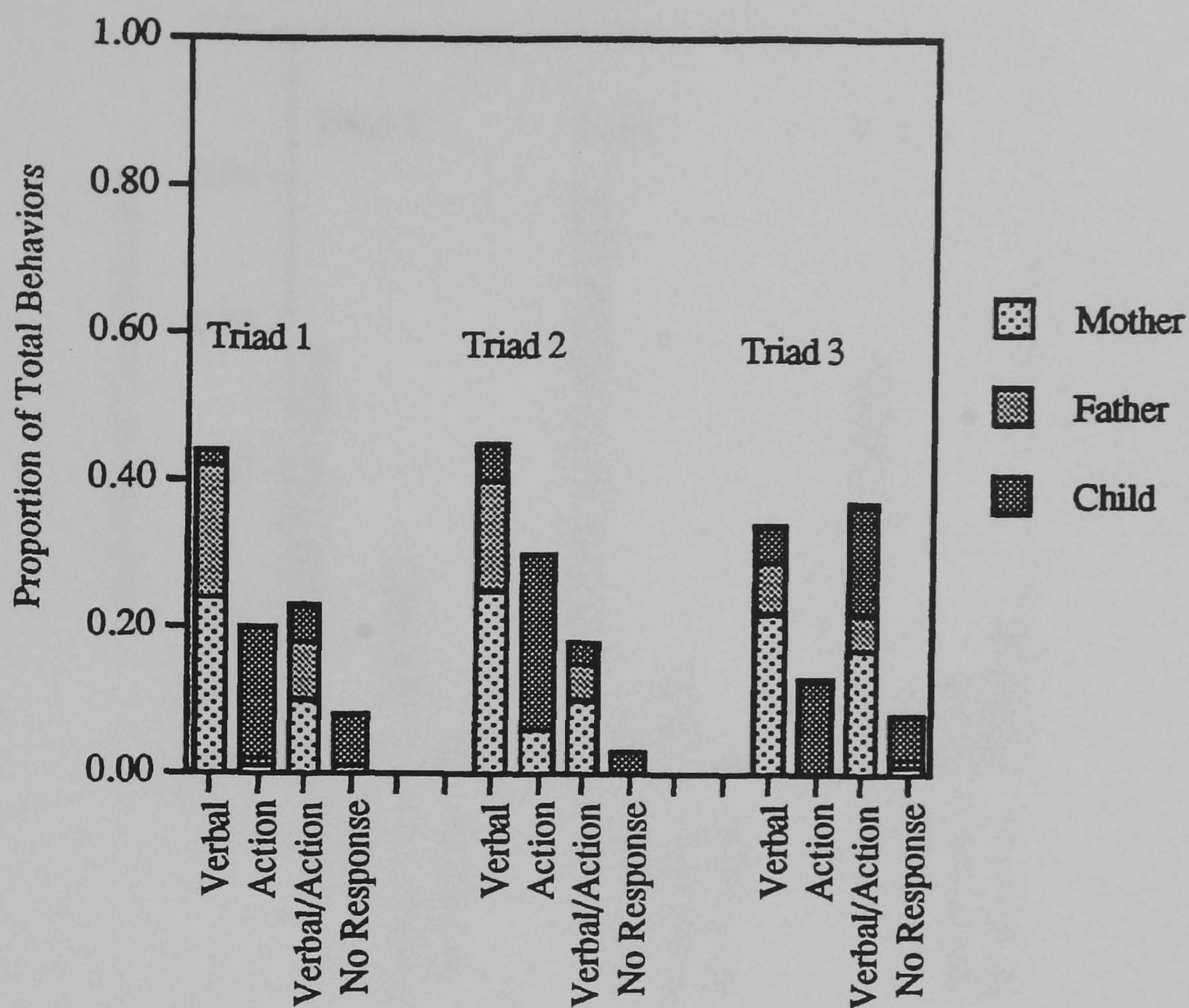


Figure 5.4.1 The proportion of the total behaviors that comprised the turns in the three longitudinal triads at 12 months of age.

In all three triads, the parents verbal turns combined to represent the largest proportion of the turns. Although children have some verbal and some verbal/action turns, action turns are a major component of the children's turns. Verbal/action turns were also frequently taken by parents. Parents took very few actions turns. No response turns are also fairly common for children but they rarely occurred for parents.

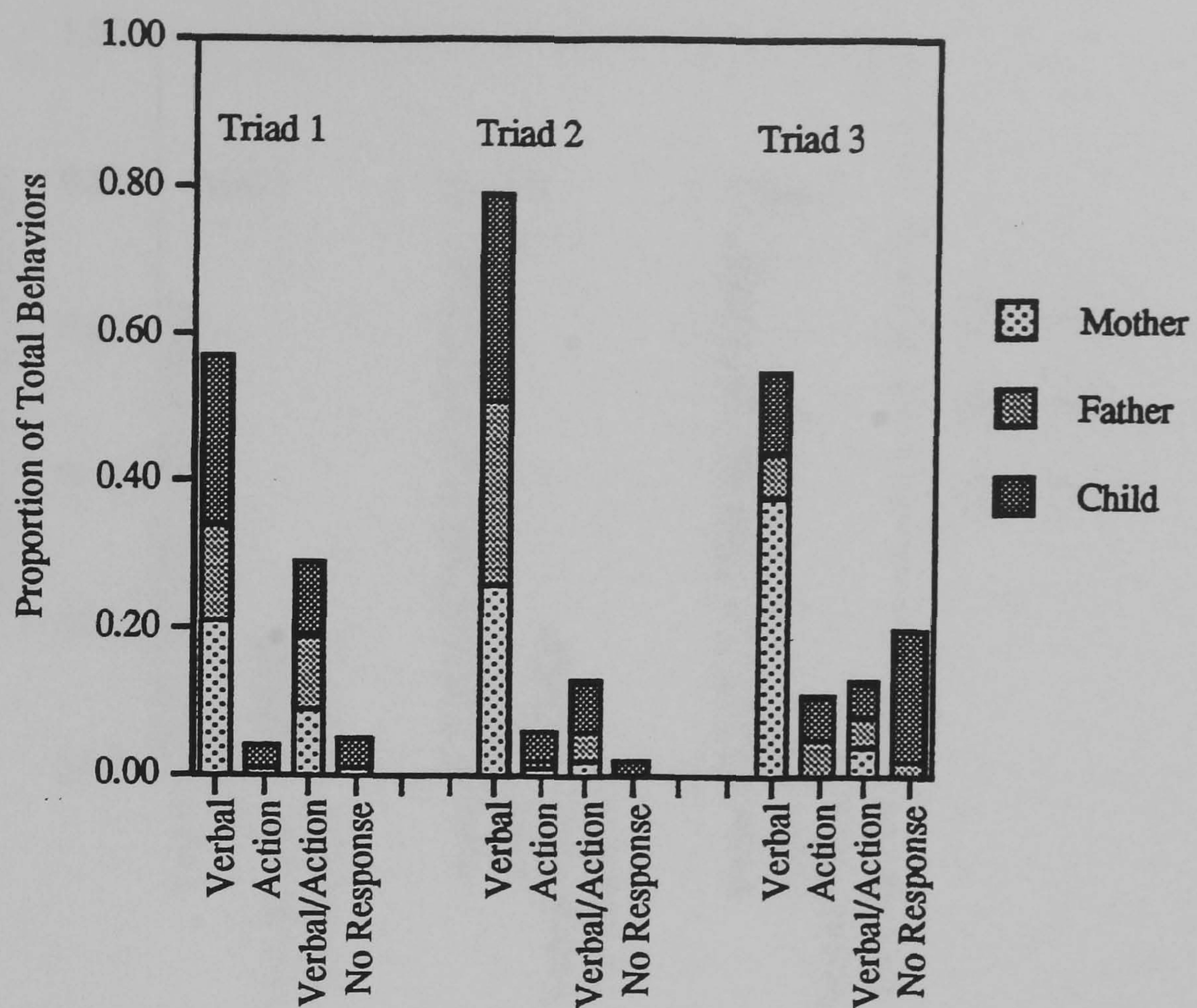


Figure 5.4.2 The proportion of behaviors that comprised the turns in the three longitudinal triads at 24 months of age.

Verbal turns continue to make up the majority of the turns for the parents and also for the children in Triads 1 and 2. The child in Triad 3 has more no response turns than verbal turns. Verbal/action turns continue to play an important role for all of the members of the triads. Action turns have a less prominent role to play in the interaction for the child.

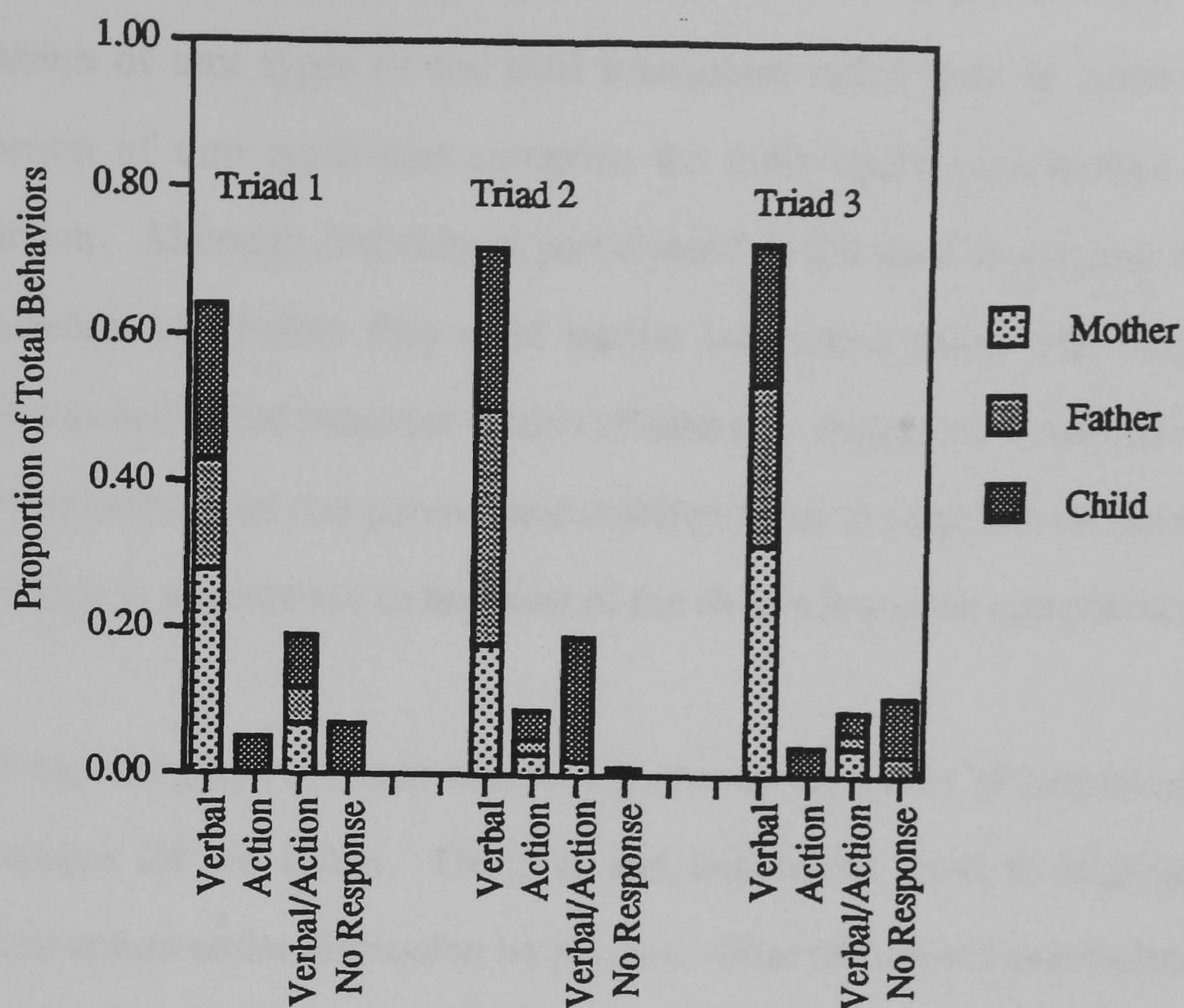


Figure 5.4.3 illustrates the proportion of behaviors that comprised the turns in the three longitudinal triads at 36 months of age.

At 36 months the interaction is largely verbal for all members of the triad. Verbal/ action turns still have a role to play but they are less prominent than they were at 12 and 24 months.

The distribution of interactive behaviors in the three longitudinal triads are very similar to the distribution of the interactive behaviors for the six triads at 12, 24 and 36 months. Fathers in most cases took fewer turns than mothers particularly with the younger children.

5.5 The comparison of behavioral repertoires

To this point, participation in the triad has been described in terms of the proportion of turn types of the total interaction rather than in terms of the proportion of turn types that comprise the individual's participation in the interaction. Although individuals participated in the triad to varying degrees the question of whether they used similar interactive styles with respect to verbal and nonverbal behavior is also of interest. Pellegrini, Brody and Sigel (1985) demonstrated that parents and children seem to negotiate an interaction style which is appropriate to the level of the child's linguistic competence.

Social context plays an important role in the development of communicative competence for the infant. Gestures and actions are used to highlight the object or action under discussion by parents. Gaze and object manipulation on the part of the child helps define the topic of discussion selected by the parents (Messer, 1994).

Harris (1992) reported that mothers make accommodations for their children's physical abilities. She video taped mother and child dyads at seven, ten and 16 months and identified the behaviors mothers reacted to verbally. She found that at seven months the child's gaze determined the topic of the interaction. By ten months, this had changed and mothers were more likely to react to actions from the child. At 16 months, mothers were more responsive to action and verbal/action behaviors of the child.

The proportion of individual turn types was determined by dividing the number of each turn type into the total number of turns taken by the individual. Figures 5.5.1, 5.5.2, 5.5.3, 5.5.4 illustrate the mean proportion of individual turn types for the resulting 4 categories.

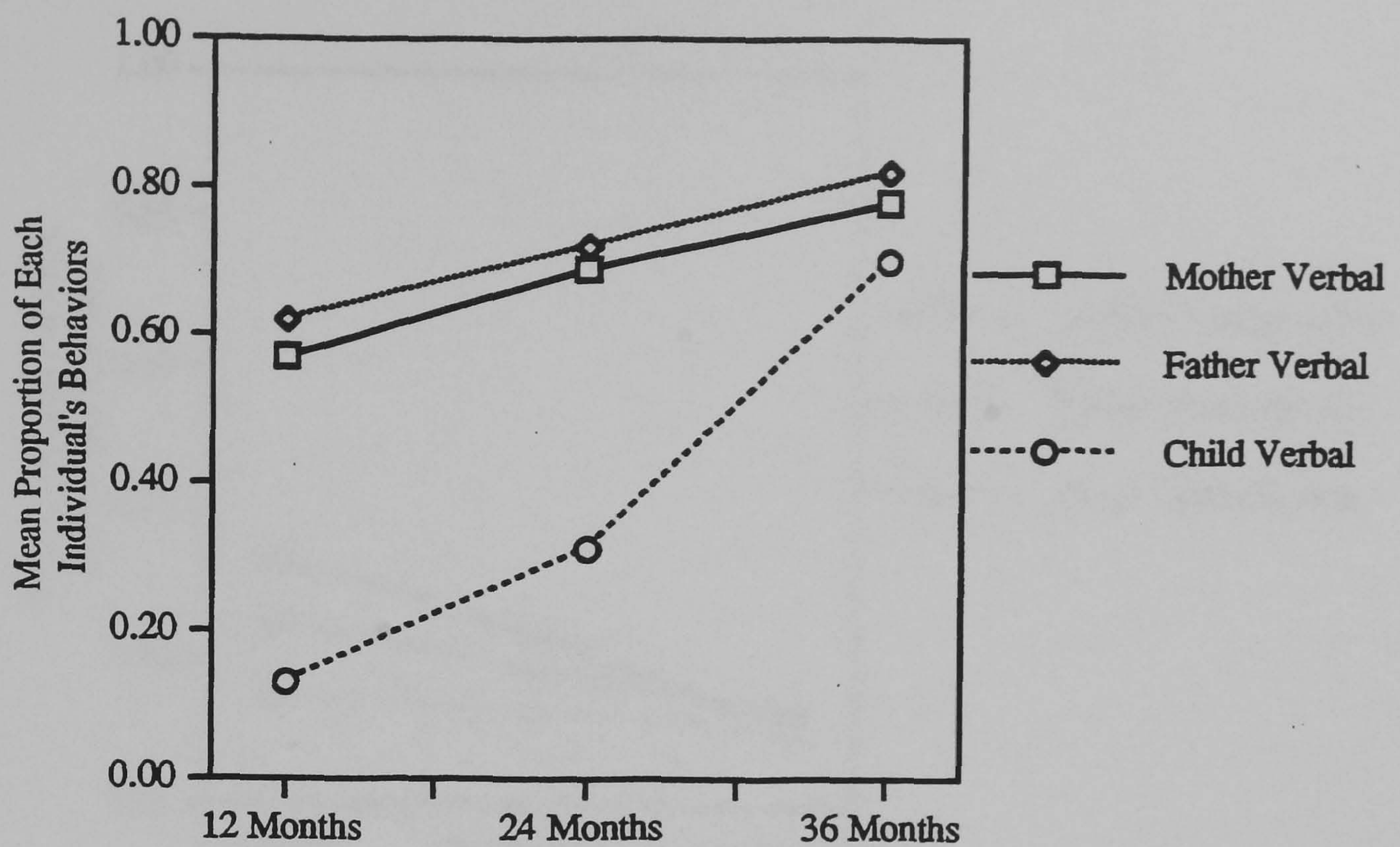


Figure 5.5.1 The mean proportion of the individual's turns which were verbal in the 12, 24 and 36 month old age groups.

Verbal turns represent the majority of parental turns and the mean proportion for mothers and fathers increases from 12 to 24 and 24 to 36 months along the same slope. The mean proportion of parental verbal turns is very similar at all three ages for mothers and fathers. The mean proportion of children's verbal turns is much lower at 12 and 24 months but it approaches the parents' mean proportion of verbal turns by 36 months.

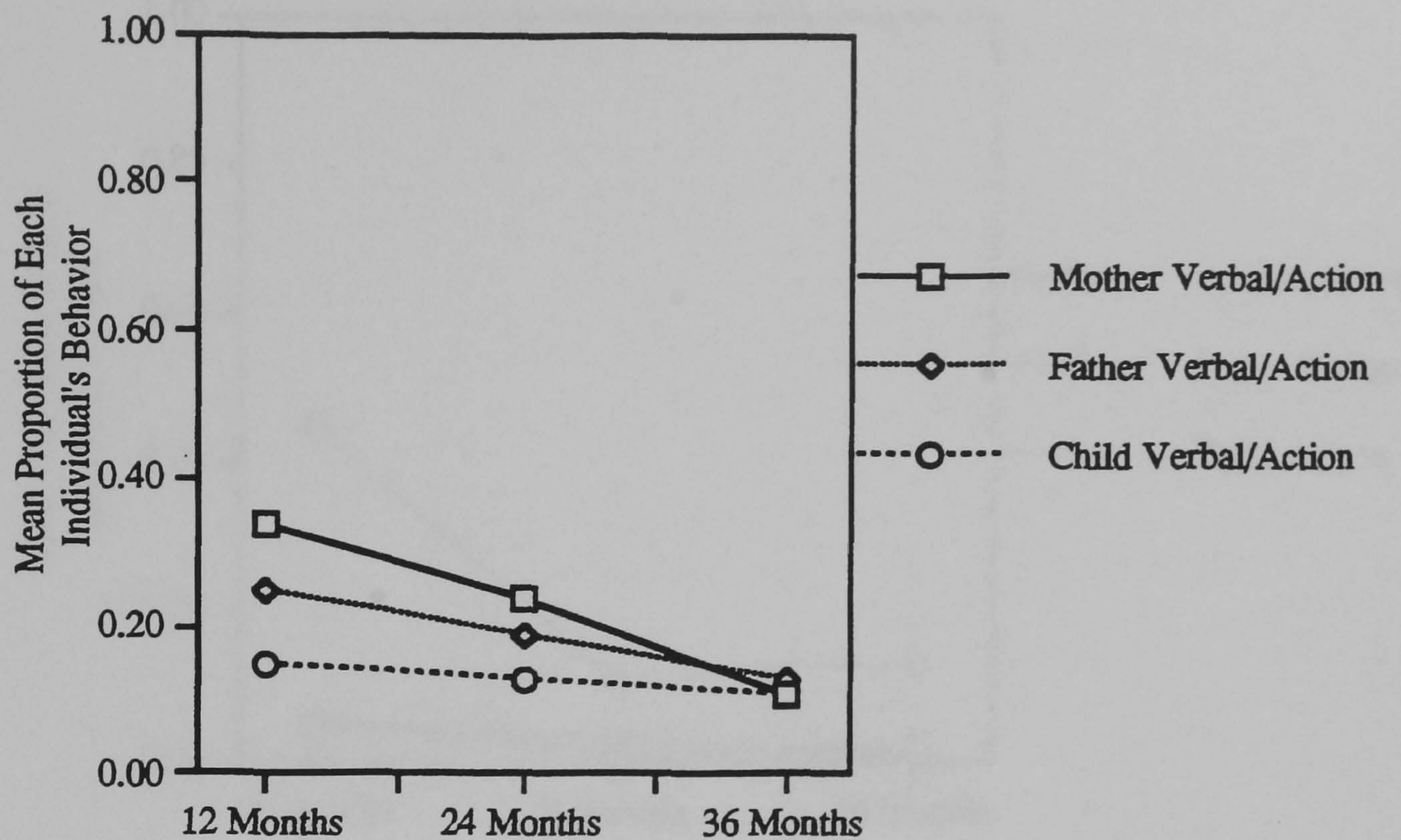


Figure 5.5.2. The mean proportion of the individual's verbal/action turns in the 12, 24 and 36 month old age groups.

The mean proportion of verbal/action turns used by mothers is greater at 12 months than that of fathers. By 24 months both mothers' and fathers' mean proportion of verbal/action turns has decreased. At 36 months, mothers fathers and children have a similar mean proportion of verbal/action turns. The mean proportion of children's verbal/action turns stays fairly constant across the three ages.

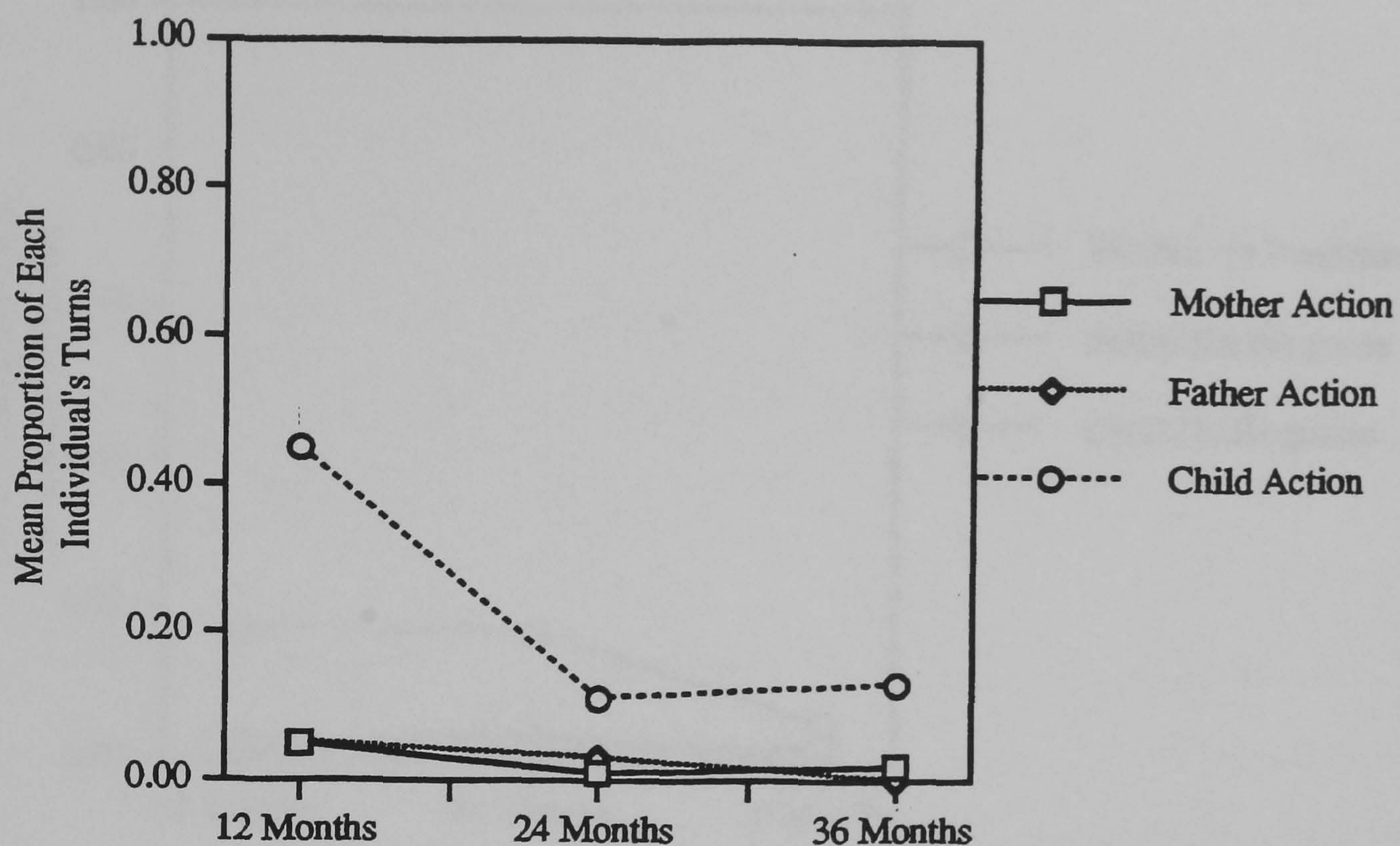


Figure 5.5.3 The mean proportion of the individual's action turns in the 12, 24 and 36 month old age groups.

Parents use surprisingly few action turns. The children on the other hand rely quite heavily on them at 12 months but the mean drops from .45 to .29 at 24 months and then remains about the same at 36 months.

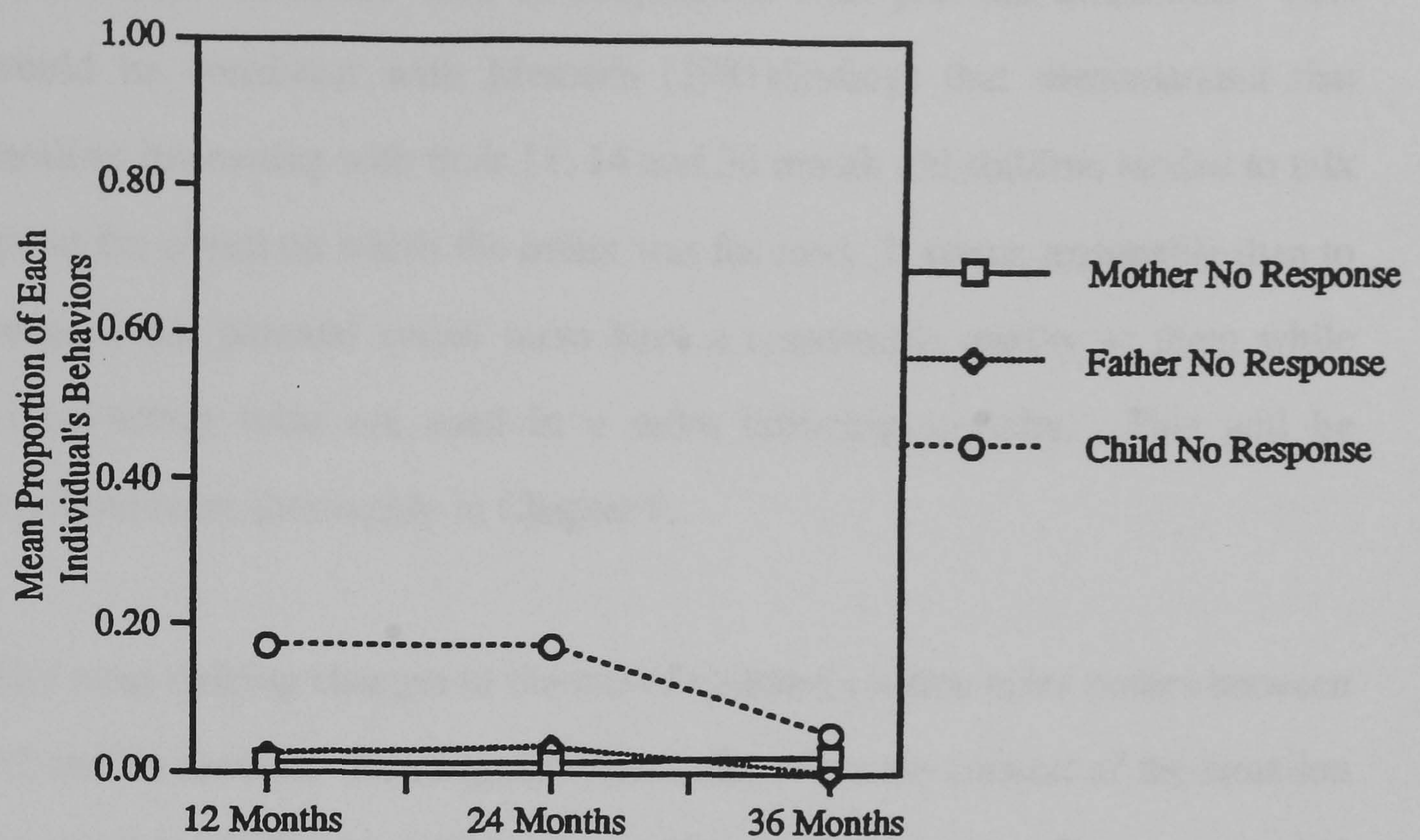


Figure 5.5.4 The mean proportion of the individual's no response turns in the 12, 24 and 36 month old age groups.

No response turns are used infrequently by the parents. The proportion of children's no response turns is similar for 12 and 24 months but decreases at 36 months.

The triadic interactive situation of the 12 month old child is one that relies heavily on the context of the interaction for successful communication to occur. The child communicates with the parents largely through actions and verbal/action turns. These findings are consistent with those of Harris (1992) who found that at 16 months none of the children in her study had reliable words. Parents use verbal turns fairly extensively even at 12 months but they also frequently accompany their speech with actions but they rarely use actions by themselves to convey information. It is possible that the verbal

utterances are used to describe or respond to the children's actions and that verbal/action turns are used in conjunction with parental initiations. This would be consistent with Messer's (1981) findings that demonstrated that mothers interacting with their 11, 14 and 36 month old children tended to talk about the object on which the infant was focused. It seems reasonable then to suspect that parental verbal turns have a responsive quality to them while verbal/action turns are used in a more initiating capacity. This will be explored more thoroughly in Chapter 9.

The most striking changes in the use of children's action turns occurs between 12 and 24 months. This suggests less reliance on the context of the situation by the 24 month old child as he or she develops more reliance on verbal communication.

The increase in the children's use of verbal turns is the most noticeable change to occur between 12 and 36 months. No response turns also decrease from those evident at 12 and 24 months. It is not possible at this point to determine whether this change is the result of the children becoming more communicatively competent or whether it is indicative of a change in compliance on the part of the children. This will be explored to some extent in the following chapter. It is also interesting to note that the proportion of verbal/action turns remains fairly constant across the three age groups for the children and this raises the question of their function within the interaction this will also be addressed in Chapter 9.

5.6 Summary

Initially, this chapter describes the relative turn opportunities available to each member of the triad. It did appear that 12, 24 and 36 month old children were provided with approximately one third of the turn opportunities. Fathers tended to have fewer turn opportunities than mothers or children. A considerable degree of variation was noted in relative participation suggesting that participation may reflect a style adopted by the triad rather than developmental changes occurring with the child's level of communicative competence. This difference in style was evident in the three triads that were examined longitudinally.

Participation measured by turns taken was then examined. Again, considerable variation existed but it did appear that most children at 36 months tended to take more turns than the 12 or 24 month old children.

The next issue considered was the type of interactive behavior used by each member of the triad. Verbal behavior was the major type of interactive behavior used by parents for all three age groups. Verbal/action behavior was used particularly by mothers at 12 months and the emphasis on it decreased through to 36 months. Similarly, children relied on action behaviors at 12 months and the importance of this behavior decreased with age as an increase in the use of verbal behaviors occurred. It was suggested that the changes in the use of verbal and action behaviors in the children may be reflective of the decontextualization occurring in the interaction as the children become more communicatively competent. It was noted that the longitudinal data from the three triads followed a similar pattern.

The final issue examined in this chapter was the differences and similarities in individual style with respect to interactive behaviors. This measure was arrived at by expressing turns of a particular interactive behavior for an individual as a fraction of the total number of an individual's turns in the interaction. The proportion of mothers' and fathers' verbal, verbal/action, action and no response turns were strikingly similar to one another for all three ages. The proportion of verbal turns increased with the age of the child while verbal/action turns tended to decrease over this time frame. Parental action and no response turns rarely appeared.

A different pattern existed for the children. The mean proportion of verbal turns increased with age with the largest increase occurring between the 24 and 36 month old children. The mean proportion of verbal/action turns remained approximately constant across the three ages. A substantial drop in the proportion of action turns occurred between 12 and 24 months and then was fairly constant at 24 months and 36 months. No response turns remained relatively constant at 12 and 24 months and then decreased between 24 and 36 months. The effect of these changes meant that by 36 months the distribution of children's interactive behaviors approximated those of their parents.

It should also be noted that the changes in the proportion of mothers' and fathers' interactive behaviors is remarkably similar across the three age groups suggesting that mothers and fathers do adopt similar behavioral styles when interacting in a triad containing their children.

At this point it is really only possible to consider the triadic interaction in terms of the total interactive environment. Not until turn direction is taken into consideration is it possible to deal with what types of behaviors are

intended for the child and what behaviors are intended for the other parent.

Turn directions will be dealt with in Chapter 6.

Chapter 6

Analysis of the Turn Direction

Although a number of studies have examined differences in the way mothers and fathers interact with their children (see Barton and Tomasello, 1994 for a review) only a few of these studies (Davidson and Snow, 1996; Hladik and Edwards, 1984; Rondal, 1980 and Stoneman and Brody, 1981) have been concerned with the way mothers, fathers and children work together in a triadic situation. Of these four studies only two make any reference to the direction of the turn. Davidson and Snow indicated that they were unable to define who the five year old children in their study were talking to in the triadic situation so they pooled the children's turns and did not attempt to identify the parent being addressed. Hladik and Edwards suggest that fathers' turn length is longer in the triadic situation because of the inclusion of speech addressed to the mother.

From a developmental perspective it is recognized that mothers are able to direct their infants' attention by the time the infants reach their first birthday (Messer 1994). Infants are also capable of influencing their mothers' attention through gaze, action and vocalization (Harris, 1992). The triad presents another dimension to this problem of coordination of attention. Each member of the triad is required to make choices, not only about what objects or actions to which they will attend, but also to whom they will attend. This Chapter will examine the turn directions used within the triad with the 12, 24 and 36 month old age groups.

6.1. The frequency of different directions of turns for the three age groups

There were 5 different observed directions turns took. These included: no direction, monadic, dyadic, double dyadic and triadic turns. Figure 6.1.1 illustrates the mean proportion of turn directions for the three groups of children at 12, 24 and 36 month of age.

Monadic turns were rarely seen. These were turns that individuals addressed to themselves. They were described in Chapter 4 and have minimal impact on the interaction so they won't be discussed here.

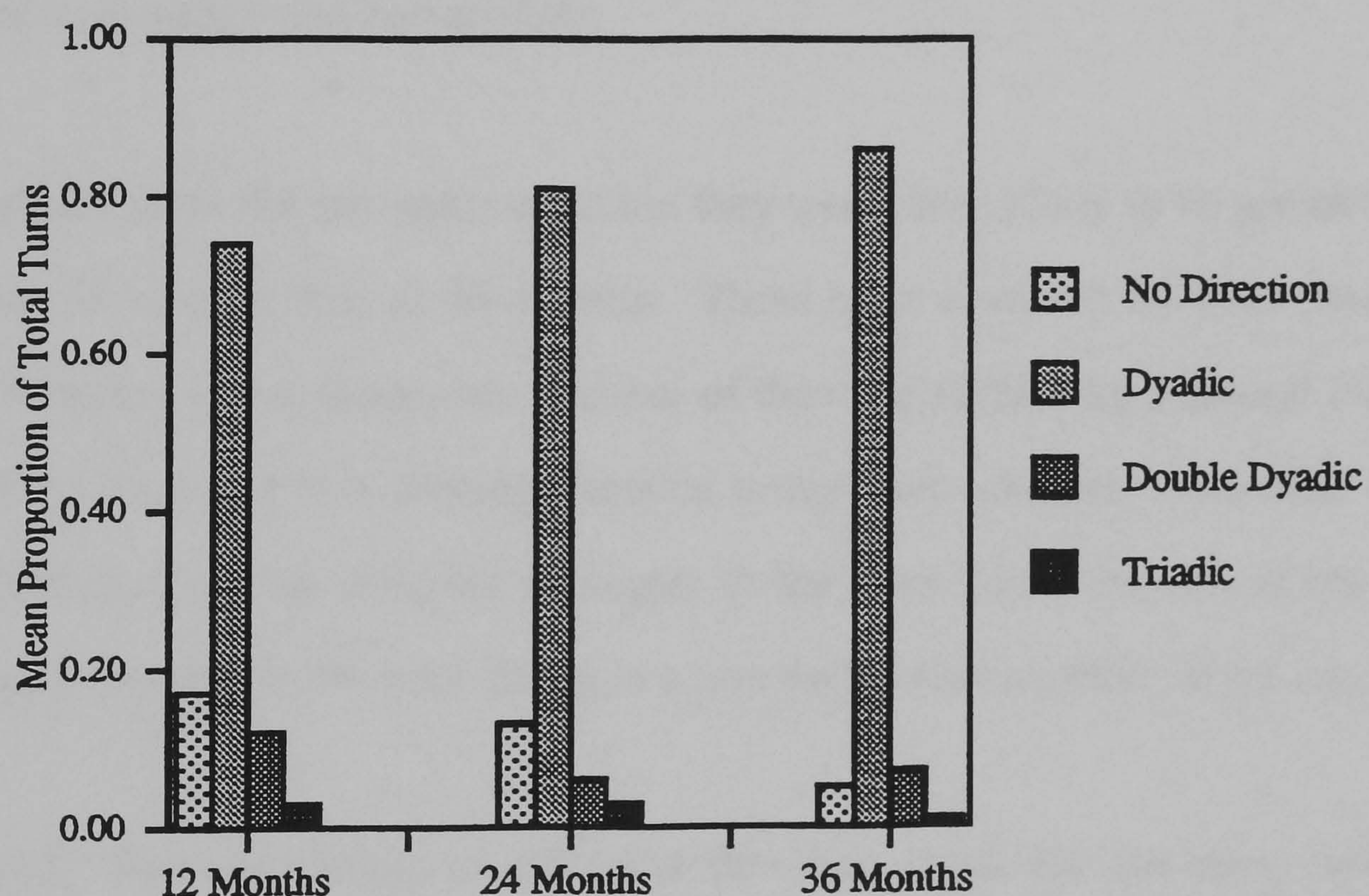


Figure 6.1.1 The mean proportion of turn directions taken by the three age groups as a function of the total number of turns.

No direction turns were turns made up of no response turns and action turns which became part of the triad because another member of the triad attached

meaning to them. These turns were most common at 12 months of age and they decreased at 24 and 36 months.

The mean proportion of dyadic turns increased with the age of the children. Turns included here were mother to father, mother to child, father to mother, father to child, child to mother and child to father.

Double dyadic turns were most common at 12 months and less common at 24 and 36 months. These turns consisted of one member of the triad addressing the other two members of the triad or two members of the triad addressing the third member of the triad. They could also take the form of two members of the triad addressing one another.

Triadic turns did not occur often but they were more likely to be present at 12 and 24 months than at 36 months. These turns involved all three members addressing one another, one member of the triad addressing a second member of the triad and then shifting attention to the third member, a member of the triad sending two different messages to the other two members of the triad, and a member of the triad filling in a turn for another member of the triad.

6.1.1 The proportion of different direction turns for the three children followed longitudinally

Figure 6.1.1.1 illustrates the proportion of each turn direction for the three children at 12, 24 and 36 months. The numbers 1, 2, 3 that appear above the columns refer to the triad numbers for each of the three longitudinal triads.

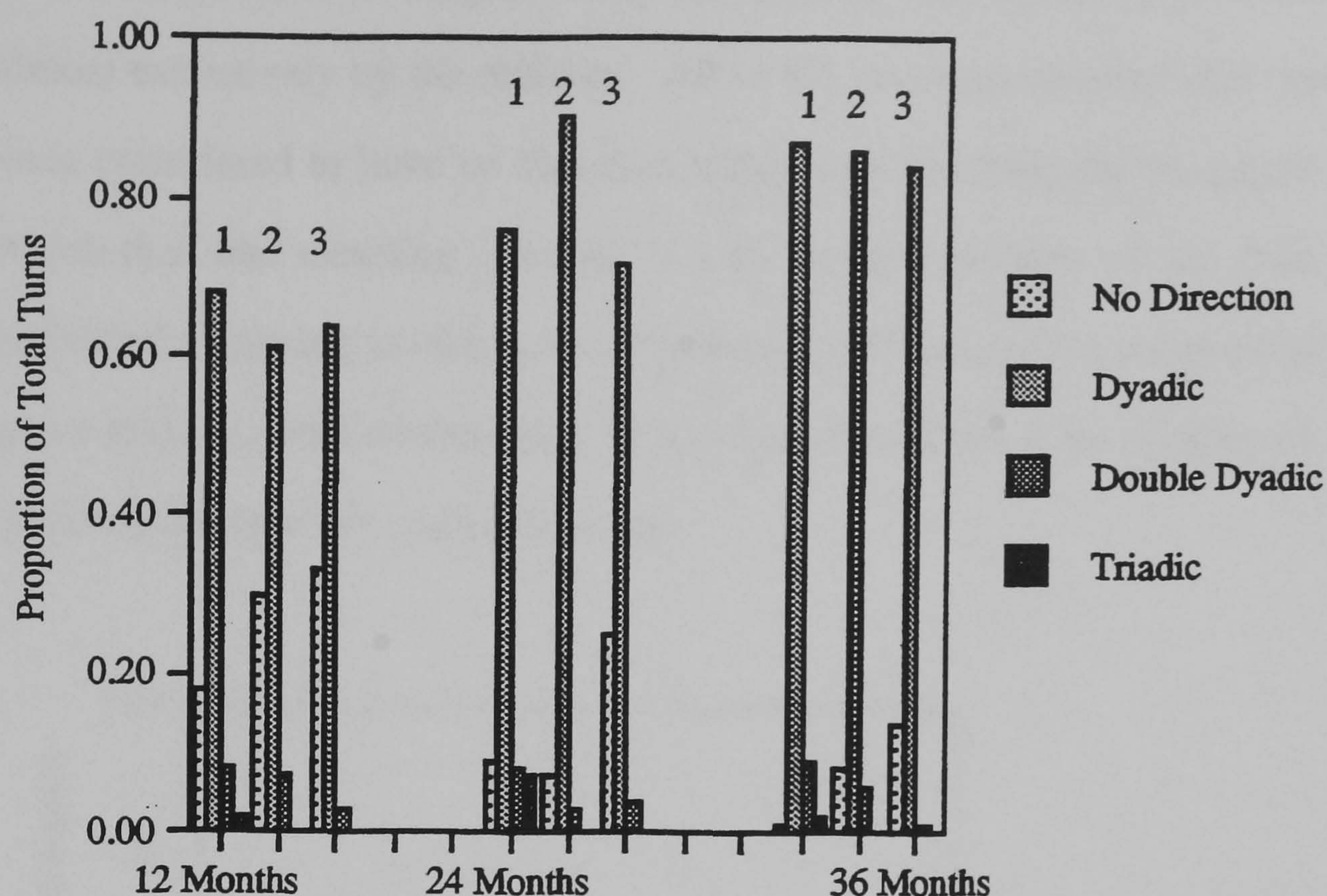


Figure 6.1.1.1 The proportion of the different types of directional turn opportunities available at 12, 24 and 36 months for the three longitudinal triads.

The numbers above the bars identify the triads. The distribution of turn directions is very similar for the three longitudinal triads and the mean proportions for the three age groups. Dyadic turns make up the greatest proportion of turn directions for all three age groups. No direction turns show a decrease with an increase in age. These findings would tend to suggest that the interaction within the triad becomes more dyadic in nature as children grow older. Double dyadic and triadic turns did not occur often enough to comment on here.

6.2. No direction turns

It was established in Chapter 5 that no response and action turns were taken almost exclusively by the children. All of the no response turns that occurred were considered to have no direction while only the spontaneous action turns which then had meaning attached to it by another member of the triad were classified as having no direction. Figure 6.2.1 illustrates the mean proportion of no response and action turns as a proportion of the total number of turns taken by the child for each age group.

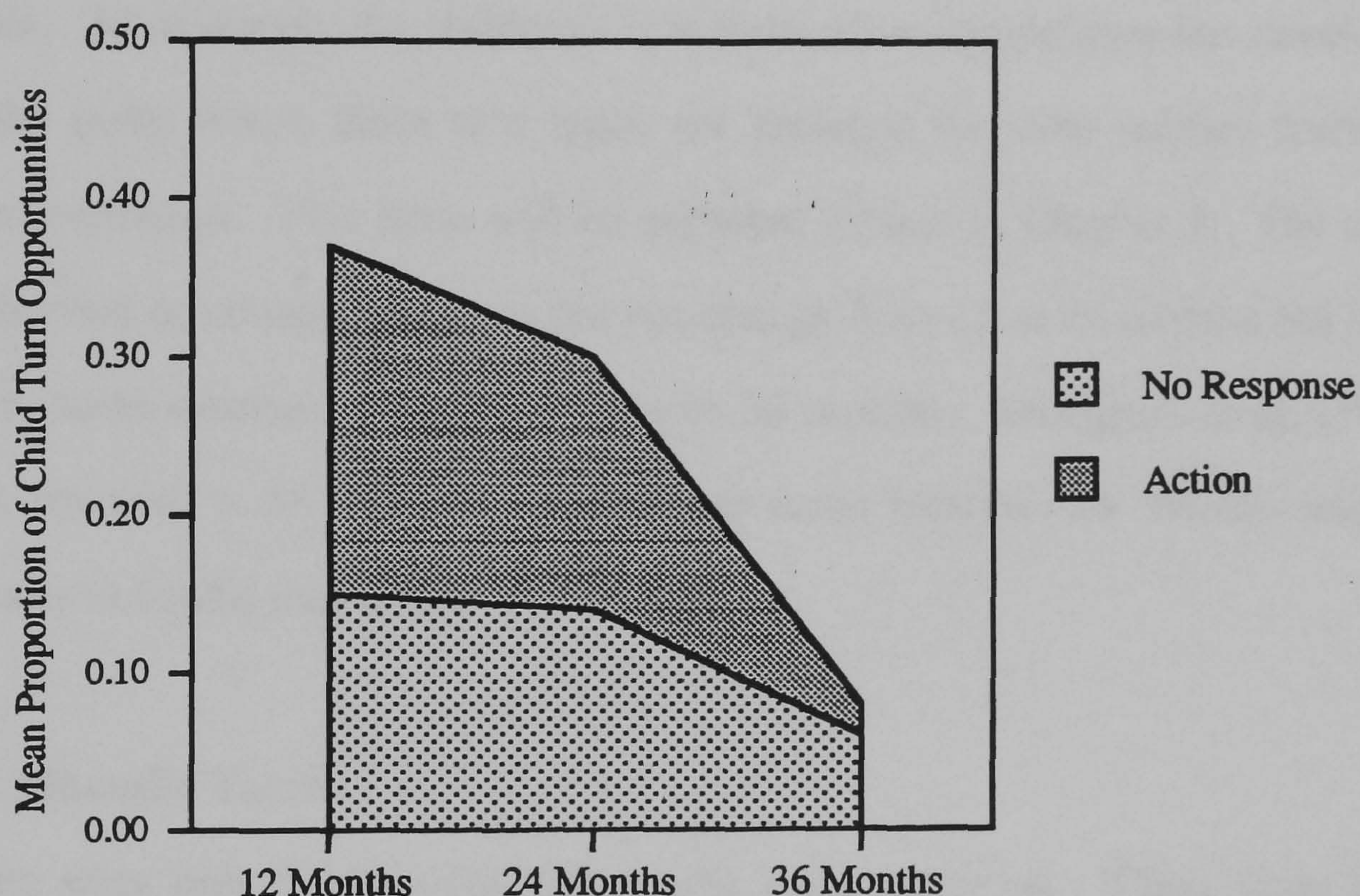


Figure 6.2.1 The mean proportion of no direction turns of 12, 24 and 36 month old children as a function of the total number of turn opportunities available to the child.

It is interesting to note that the mean proportion of no direction turns is .37 of the 12 month old children's total number of turn opportunities. The steepest decline in the proportion of no direction turns occurred between 24 and 36

months and the decrease in no direction action turns accounts for the largest proportion of this decrease. This suggests that parents were responsible for assigning meaning and direction to these turns. No response turns also decreased slightly between 24 and 36 months but not as steeply as action turns. This would tend to suggest that interactions of children at 12 months and to some extent 24 months rely fairly heavily on action turns that do not have any direction associated with them. By 36 months, this type of interaction has virtually disappeared suggesting that parents are no longer willing to accept any action on the part of the child as having communicative intent. Alternatively the children's communicative competence has developed to the point where these turn types are replaced by more mature forms of communication. This issue will be explored further in Chapter 8. The mean proportion of no response turns did not change from 12 to 24 months but it did show some decrease from 24 months to 36 months. Pellegrini, et al. (1987) also reported a decrease in no response turns between 24 months and 36 months in triadic situations.

6.3. Monadic Turns

There were only 5 examples of monadic turns observed. These turns have already been discussed in some depth in Chapter 4 as a result they will not be discussed further.

6.4. Dyadic Turns

Dyadic turns were the predominant direction for the turn to take and now that the direction of the turn has been defined it is possible to examine who addresses whom in the triad.

6.4.1. The direction of dyadic turns in the triad.

There were seven different directions the dyadic turn was observed to take. These directions were listed earlier in the chapter. Figure 6.4.1 illustrates the mean proportion of dyadic turns for the total number of turns taken in the three age groups.

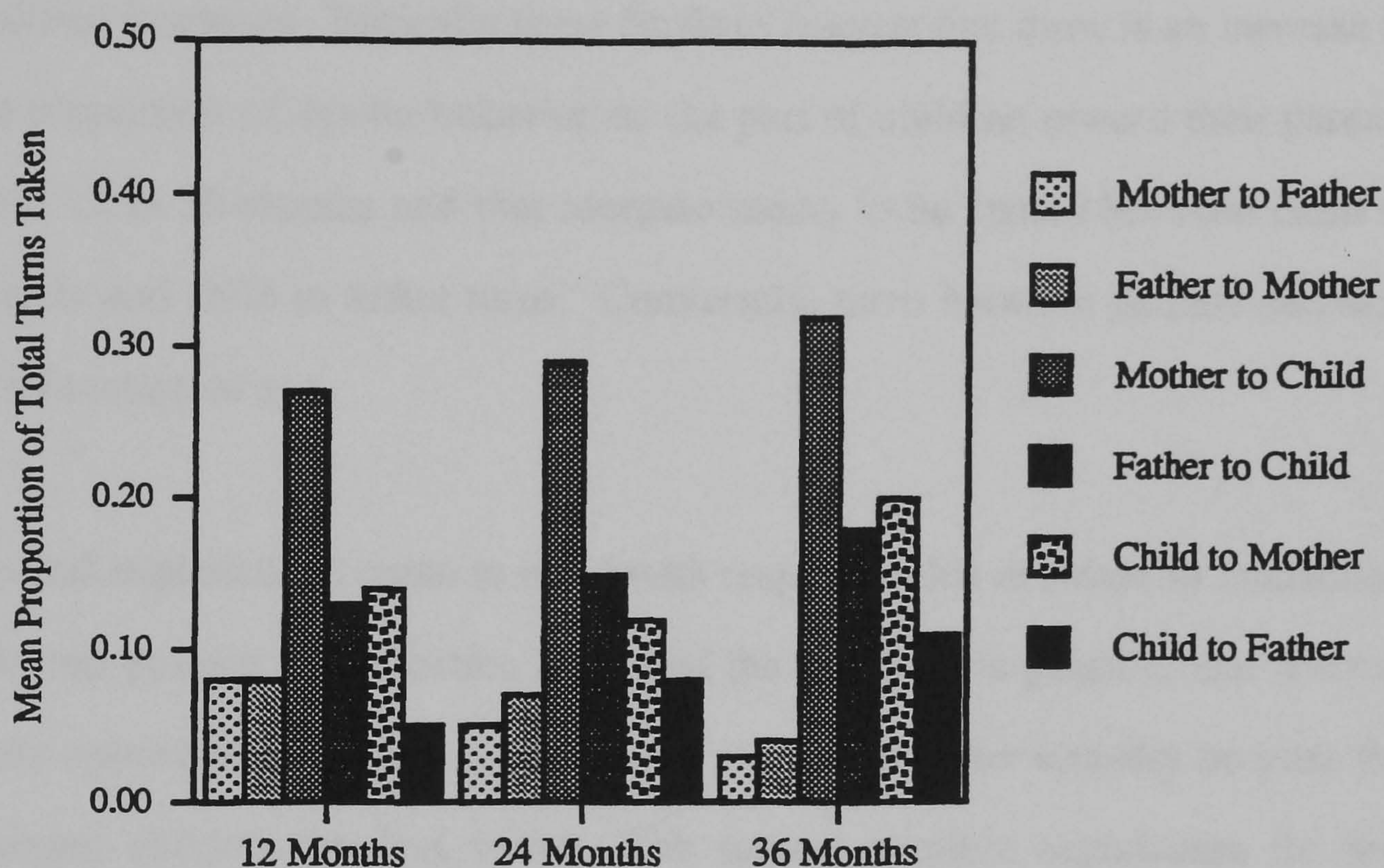


Figure 6.4.1.1 The mean proportion of each type of dyadic turn for the three age groups as a function of the total number of turns taken.

Examination of this figure seems to indicate that the mother to child turns are the most frequently occurring dyadic form for the turn to take for all three age groups. In fact, the proportion of mother to child turns is the highest occurring dyadic form in 15 of the 18 triads. The proportion of father to child interactions is higher in three of the triads. Children tend to have a higher proportion of child to mother turns in the triads where the proportion of

mother to child turns is higher. In the triads where the proportion of father to child turns is higher, the proportion of child to father turns is correspondingly higher than the child to mother turns in all of the triads. The mean proportion of father to child and child to father directional turns increase with age. Child to mother turns are highest at 36 months and lowest at 24 months. Mother to father turns and father to mother turns occur in approximately the same proportion. Turns between mothers and fathers decrease as the age of the children increases. Basically these findings suggest that there is an increase in the proportion of dyadic behavior on the part of children toward their parents from 12 to 36 months and that increase seems to be spread between child to mother and child to father turns. Conversely, turns between parents decrease as a function of age.

Several explanations come to mind with respect to this decrease in interaction between parents as a function of age of the child. It is possible that there is more opportunity for parents to interact with one another verbally because the younger children are less vocal. The second possible explanation for this decrease is related to the findings of Adamson et al. (1990) who examined the conditions under which children between the ages of 9 and 15 months become increasingly able to coordinate their attention between their mothers and objects of interest and it is possible that this places an increase on the demand for parental attention thus providing less opportunity for parents to interact with one another. The third possibility and the one that will be explored in Chapter 9 is that the parents somehow use their conversations to create a state of joint attention at 12 months and as joint attention becomes less important to the success of the interaction, discussions between the parents decrease.

6.4.2. The proportion of dyadic turns addressed to the child as a function of gender

There were 7 girls and 11 boys included in the 3 triads of 12, 24 and 36 months old children. A comparison was made of mother to child interactions with male and female children and of father to child interactions and male and female children. No relationship was obvious. There were however three fathers who interacted more with their sons than did the mothers. One of these triads included a 24 month old child and the other two involved 36 month old children. There was another similarity other than gender of the child however, and that was the fact that all three of the fathers were medical residents. These are people who are working 70 to 80 hours a week and it is possible that when they get home for a meal mothers move aside and give them the chance to interact with their children. The other possibility is that the video taping was done in a building attached to the hospital and although none of these doctors worked in this building they felt more at home than the mothers. There were however several other parents who either worked in the hospital or at the university of which the hospital is a part and these fathers did not take on this active role. This certainly helps to make the point that parents functioning as part of a triad are required to not only think about the child but they also need to think about the other parent and there may very well be an unspoken agreement about how they will handle any situation. This would be consistent with power and exchange theory proposed by Maccoby and Martin (1983). This theory states that family members contribute different resources to different family contexts. Possession of specific resources in a context is related to an individual's power in that context. Mothers in this context may provide fathers with an opportunity to interact with the children and take on a more facilitative role.

6.4.3 The response of the children to a particular parent

It can be argued that a dyadic environment is a less complex interactive situation than a triadic situation and therefore children may perform better when parents essentially create a dyadic environment by taking control of the interaction with the other parent functioning as an observer. If this is the case then if a large difference is observed between mother to child and father to child turns one might expect the child to have fewer no response turns. Examination of the data did not show any consistent relationship.

It is virtually impossible to examine double dyadic and triadic turns without taking the linguistic context into account so they will be dealt with in Chapter 7.

6.5 Summary

This chapter presents the data on the direction turns take in the interaction. Monadic turns occurred rarely. No direction turns consisted of two different types of turns, no response turns and action turns that had meaning attached to them by another triad member. No direction turns and double dyadic turns were most prevalent in the 12 month old age group and then showed a decrease at 24 months with a further decrease occurring at 36 months. Dyadic turns on the other hand increased with age. There really were not enough triadic turns to identify any pattern. The three longitudinal triads followed a very similar pattern thus supporting the reported group trends.

No direction turns were examined in terms of the mean proportion of no response and no direction action turns. No direction action turns showed the greatest decrease between 24 and 36 months suggesting that it is between 24 and 36 months that parents no longer attach meaning to actions of the child

that do not have any communicative intent and children begin to use more turns that have a directional component attached to them. No response turns also show a decrease between 24 and 36 months suggesting that children are becoming more competent at responding to interactions directed to them.

An analysis of the dyadic turns indicates an increase in the mean proportion of dyadic turns children address to their parents as a function of age. This taken with the reported decrease in no direction turns suggests that children's ability to define the direction of the turn improves with age and the greatest improvement occurs between 24 and 36 months. Interactions between parents decreases as the age of the children increases. It is also possible that the increasing interactive demands from the child results in fewer opportunities between parents for communication or it may be that parents use the interactions with one another to achieve some form of joint reference. This issue will also be addressed in Chapter 7 and Chapter 9.

Chapter 7

Interaction Analysis of the Triad

This chapter examines how the interactive behaviors were coded to reflect communicative function. The coding strategy is described through examples and relevant developmental issues are discussed.

7.1 The technique used for the interaction analysis

The age range of the children in this study was selected to reflect the development of language from the emergence of first words through to the appearance of conversation. The problem then was to find a way of analyzing the interaction which adequately represented the interactive skills of this communicative spectrum reflecting triadic communication that took into consideration the communicative components of nonverbal behavior.

Wells (1979) developed a discourse coding strategy which was later applied by McTear (1985) to children's conversations. Examination of the triadic interactions suggested that it would be fairly easy to define initiating and responding behavior in the context of McTear's definition.

The turn was broken down in a slightly different way from the method used by McTear. The turn in this study differed in the following ways: the turn boundary was marked by either a pause or a change in speaker or actor; it was possible for more than one person to take the same turn; and turns were not necessarily verbal, they could take the form of actions or gestures. The term interaction analysis is used to describe this coding strategy because of the inclusion of nonverbal behavior.

It should be pointed out that this is not an attempt to replicate McTear's analysis but rather an attempt to adapt it and apply it to a different situation using the 4 basic categories he defines (initiation, response, continuation and reinitiation). The coding strategy used here is designed to take account of two adults and a child and recognize nonverbal behavior as a turn form. This strategy focuses on the structure of the interaction rather than conversation. The identification of initiating, responding and reinitiation behaviors is fairly straight forward. Continuation behaviors and response behaviors that leave an opening or encourage a further response were less clear. The coding system is presented in Appendix D.

Interactive strategies employed in the triad change dramatically over the two year period from 12 to 36 months. At 12 months infants rely heavily upon the context of the interaction to participate in the interaction. By 36 months, interactions are much less context bound and less concrete (Messer, 1994). The infants are not the only ones whose interactive behaviors change. Mothers have been shown to make accommodations in response to infants' developmental ability. Harris (1992) reports that mothers respond to different types of initiating behavior from infants at seven, ten and 16 months. At seven months, mothers were more likely to respond to their children when the children changed the direction of gaze. By nine months, mothers were more likely to respond to changes in action on the part of the infants. At 16 months, mothers responded more to vocalizations accompanied by actions.

7.2 Initiations

An initiation is defined as a behavior which breaks the continuity with the preceding interaction and predicts a response. As McTear (1985) indicates,

two of the functions of initiations are attention getting and attention directing and these can be either verbal or nonverbal in nature.

Often the parents are the ones who determine the function of the child's turn. The following example illustrates this.

No	Type	Direction	Function	Turn
6	ver	c to f	I	hmm dat
7	ver	f to c	R/(I)	you're pretty hungry aren't you?

Subject 9-12

Example 7.1

It is not possible to tell what the child means but from the father's inflection it appears that he has treated the child's turn as an initiation to which he then responds. The child's utterance contains some illocutionary force because it is clear that the turn is directed at the father but it carries very little semantic information. This is consistent with Dore's (1985) description of early word-like utterances. He describes them as "recipes for skillfully 'knowing how' to perform some roughly appropriate sound in some apparently appropriate context" (p. 35). Turn 7 has a phatic quality to it making it a safe response because it really doesn't carry any important information.

The fact that the father uses a tag question is also interesting because the question is an effective way of indicating to the child that she can take the floor. It is possible that the suprasegmental information in the question is what provides the salient information for the child rather than the semantic

content. Ryan (1978) argues that infants respond to the prosodic information in speech before they understand the actual words spoken.

The following example is a good illustration of a 12 month old child using a vocalization and a shift in gaze from the mother to the father to both gain the father's attention and shift the interaction from the mother and child to the father and child.

No	Type	Direction	Function	Turn
1	ver/act	m to c	I	we need to put your bib on you/ties bib around c's neck/
2	nr	c		
3	ver	m to c	I	there, how do you like that?
4	ver/act	c to f	I	aam/turns to look at f/
5	ver	f to c	R	hi

Subject 9-12

Example 7.2

The interaction is successful because of the parents' attentiveness to the focus of the child's attention. This attentiveness is typical of the interactions occurring between parents and younger children. The child is involved in an episode of joint attention with her mother. She then shifts her attention to the father and he acknowledges that shift by greeting her. The child accompanies her shift in attention with a vocalization. Harris (1992) reports that vocal/action, child initiated episodes increase from about 10% of the child's initiations at 10 months to 44% at 16 months. It would appear that this child is beginning to use vocalizations with her actions in interactive turns.

The child's actions sometimes provide the structure for the conversation between the mother and the father.

No	Type	Direction	Function	Turn
13	act	c	I	/take mouthful of soup/
14	ver	m to c	R	mmmm
15	ver	f to m	I	? all the noodles have gone to the bottom eh.
16	ver	m to f	R	mm hmm
17	act	c	I	/takes spoonful of soup/
18	ver	m to f	R	he's doing pretty good
19	ver	f to m	I	? haven't had this soup for a long time I think this soup
20	act	c	I	/takes spoonful of soup/
21	ver/act	m to c	R	/helps c with spoon/ ?here mommy help you
22	ver	m&f to m&f	I	is he ever {doing well} {he must have been hungry}

Subject 5-12

Example 7.3

In this example, the child is busy eating his soup. The mother makes one comment to the child and then directs her comments to the father about what the child is doing. The role overhearing plays in the development of conversational skills is not clearly understood but Forrester (1993) hypothesizes that:

when one is overhearing a conversation between two others, one is being given impromptu lessons in what forms of social interaction are possible between people. It is not simply a case of hearing the forms of language or learning about turn-taking, or whatever. In addition, the parameters of social interaction (as far as the infant is concerned) are both being demonstrated and defined, by being acted out. Overhearing of this form, and in such a context, may be a particularly important context for learning or detecting the affordances of social interaction. (p. 52)

The interaction between the mother and the father gives the child a chance to hear himself referred to in the third person in the context of what is currently happening. It also provides him with an opportunity to observe turns directly related to his actions being passed back and forth smoothly between his parents.

The child eating his soup really provides much of the structure for this interaction. Again there is a sense of attentiveness present on the part of the parents. The parents are watching the child and commenting on almost every move as well as moving in and providing assistance when needed. In other words, the parents are working together and creating a state of joint attention. One aspect of negotiating joint reference basically involves taking children's vocalizations and actions, many of which may or may not have communicative intent attached to them, and responding to them by treating them as meaningful communicative attempts.

This following example illustrates a 24 month old child shifting direction through nonverbal initiations between the mother and the father. She uses a format similar to that describe by Bruner (1983a) that has clearly been used by the family before as she controls the directions of the turns in the triad through her gestures.

No	Type	Direction	Function	Turn
68	gest	c to f	I	/holds cup out to f/
69	gest	f to c	R/(I)	/touches cups with c/
70	ver	m to f&c	I	cheers
71	gest	c to m	R/(I)	/holds out cup to m/
72	ver/gest	m to c	I	cheers /touches c's cup/
73	ver	m to c	R	yeah good
74	gest	c to f	I	/holds out cup to f/
75	gest	f to c	R/(I)	/touches c's cup/
76	gest	c to m	I	/holds out cup to m/
77	ver	f to c imp m	R/(I)	oh more cheers
78	gest	c to f	I	/holds out cup to f/
79	gest	f to c	R/(I)	/touches c's cup/
80	gest	c to m	I	/holds out cup to m/
81	ver/gest	m to c	R/(I)	more cheers okay /touches c's cup/
82	gest	c to f	I	/holds cup out to f/

Subject 12 -24

Example 7.4

It was the father who originally introduced this game close to the beginning of the interaction. The child reintroduces the game in Turn 68. Occasionally

children and parents engage in these formats. Formats may allow older children such as this 24 month old child to take control of the interaction because it is a familiar situation. She is familiar with the rules and has some expectation of what her parents' responses are likely to be. She really takes on a "chairing role" in this part of the interaction. The child is able to sustain the topic (playing "cheers") and defines the direction of the turn. In this example, she holds that control for 14 turns. The direction is denoted by the gesture of the child holding out the cup to one parent or the other. This example points out once again why the direction of the turn should be taken into consideration in triadic interactions.

7.3 Responses

A response is a behavior which is predicted by and in response to a preceding interaction. Some of these responses also predicted a further response or provided the possibility of a future response. (These turns were coded as R, R/I and R/(I) respectively. Most behaviors which occur in an interaction do not occur in isolation. They are often related to what has gone before. In true conversations, preceding utterances affect the utterances which follow. In the interaction, one would expect that preceding behavior (including nonverbal utterances) to have an effect on the behavior that follows. The individual who is doing the responding in the triad is often faced with a more challenging situation.

Sometimes children are not only expected to respond appropriately to previous behavior in the interaction but they must decide to whom to direct the turn.

No	Type	Direction	Function	Turn
23	ver	m to c	I	want some cheese Toby
24	ver	c to m	R	mhmh
25	ver	m to c	Ir	mhmh
26	ver	f to c	Ir	mhmh what
27	ver	m	R	/m laughs/
28	ver	c to m&f	R	orange
29	ver	m to f&c	Ir	orange
30	ver	f to c	R/I	can you say please
31	ver	m to f&c	I	orange cheese
32	ver	c to m&f	R	please

Subject 16-36

Example 7.5

This is an interesting example because the parents use a somewhat convoluted approach to get the child to use a polite request form. The parents are trying to get the child to include "please" in his response to his mother. The mother reflects back the child's reply in Turn 25 providing the child with a chance to self correct. The father is then a little more direct with the child in his attempt to get the child to use "please". The mother laughs in Turn 27 which has the effect of softening the father's turn. The child then responds by answering the question that he very likely anticipated. Again the mother reflects the child's response back to him. The father then requests the child to "say please". The parents provide the child with three chances to say "please" with each of the father's reinitiations becoming more specific. This is a good example of the additional demands that can be placed on the child in the triad. The child is faced with two different messages from Turns 29 and 32. He has to decide to

whom he should respond and, in this case, he makes the right choice because the father is more persistent and more demanding.

Parents sometimes simply repeat what the child says as a form of acknowledgment.

No	Type	Direction	Function	Turn
25	ver	m to f	I	I didn't think he would be like this here
26	ver	c to m&f	I	ah
27	ver	f to c	R	ah

Subject 7-12

Example 7.6

The child vocalizes for the first time in the interaction in Turn 26. The father imitates the child's initiation in Turn 25. The father's imitation has the effect of highlighting the child's behavior in Turn 26. Locke (1986) suggests that adult repetitions of children's behavior may have the effect of emphasizing specific infant behaviors. The father in this case may very well be trying to encourage more vocal behavior from the child.

This example illustrates parents acknowledging different components of the child's initiation.

No	Type	Direction	Function	Turn
15	gest/act	c to f	I	/bangs spoon smiles at f/
16	gest	f to c	R	/smiles back/
17	gest/act	c to f	I	/smiles at f picks up food with fingers/
18	ver	m to c imp f	R	but fingers are made for eating, not spoons
19	act	f to c	R	/smiles and nods at c/
20	ver	m&f to c	R	you got (good stuff) (fingers), you got ham

Subject 4-12

Example 7.7

In this example, the mother and the father are responding to different aspects of the child's gesture and action in Turn 17. The mother in Turn 18 is responding to the child picking up the food with his fingers while the father is responding to the child looking at him and smiling. The parents have selected the salient components of the message in Turn 17 and respond to it by acknowledging the message they have received. The child looks and smiles at the father and he comments on this. The mother comments on the action of the child picking up the meat with his fingers rather than using a spoon. The mother's comment is also related to earlier utterances on her part about the child's ability to use a spoon.

Often the inclusion of nonverbal information affected the coding of some interactive functions.

No	Type	Direction	Function	Turn
57	act	c	I	/reaches for orange/
58	ver	m to c	R/I	what's that?
59	ver	c to m	R	ish
60	ver/act	m to c	Ir	orange, that's an orange/takes orange from c/
61	act	c	I	/reaches for apple/
62	ver	f to c	R/I	what's that?
63	ver	c to m	R	at
64	ver/act	m to c	Ir	apple, that's an apple/takes apple from c/

Subject 9-12

Example 7.8

Turns 58 and 62 would have been classified as initiations if only the verbal component of the interaction were taken to consideration but when the nonverbal component is included it is fairly clear that these turns are in fact responses to the child's actions in the previous turns as well as initiating requests for the names for the names of the objects for which the child is reaching. It is interesting also to note that the same interactive pattern is repeated (child reaches - parent requests label - child responds - mother touches object and repeats label name twice) and the father is able to join in the interaction without disturbing the sequence. Harris (1992) contends that the mother manipulating the object as it is being labeled provides another cue for the child to aid in understanding.

The coding strategies were sometimes ambiguous with the 12 month old age group because of the open endedness of many of the parents' interactions.

No	Type	Direction	Function	Turn
6	act	c	I	/c looks up/
7	ver/act	m to c	R/(I)	light /m looks up/
8	act	c to m	R/(I)	/looks up/
9	ver/gest	m to c	R/(I)	/nodes head/ lights
10	act	c	R	/c looks up/

Subject 4-12

Example 7.9

The mother is following the child's gaze in Turn 7 while nodding her head in Turn 9 functions as a form of encouragement for the child to respond which the child does in Turns 8 and 10. This is a lovely example of attaining joint attention forming the response. The coding of Turn 8 as R/(I) is a little difficult to justify. This interpretation is based on the pace of the interaction which is quite slow and provides the mother with a chance to respond by looking back up at the lights and labeling them again.

7.4 Continuations

A continuation is a behavior which continues or adds to a previous turn. Continuations could also provide a possibility for a further response or act as a response. These turns were coded as cont, cont(I) or cont(R) respectively. These sometimes began with words such "as", "and", "but", "well", "because" or "so". They seemed to be more prevalent with the older children. The

following examples illustrate the coding convention and present some interesting examples.

This example demonstrates the use of an action as a type of continuation. It is the ongoing action of the child drinking which keeps the interaction between the mother and child and the father and mother going.

No	Type	Direction	Function	Turn
37	ver	f to c	I	you're pretty thirsty aren't you
38	act	c	R	/drinks/
39	ver	m to c	I	how's that juice
40	nr	c		
41	ver	m to c	Ir	yum
42	nr	c		
43	ver	f to m	I	it would be like the other day where she drinks her bottle down and doesn't want anything else
44	ver	m to f	R	mm hmm
45	act	c	cont	/drinks/
46	ver	m to c	Ir	pretty thirsty today?

Subject 9-12

Example 7.10

The child continuing to drink her juice throughout Turns 39 to 45 serves to keep the parents on the topic of the child drinking her juice. Turn 45 is not an initiation because the child is not doing anything different except she holds her bottle a bit higher at this point.

This example shows how this 36 month old child is able to maintain a topic. This child exhibits a tenacity for topic maintenance beyond that observed for any of the other 36 month old children.

No	Type	Direction	Function	Turn
<i>Episode 1</i>				
40	ver/gest	c to m&f	I	I have (a color all over my arm) /points to arm/
41	ver	m to c	I	(I'm I'm) off cheese these days
42	ver	f to m	R	(oh that's) right I forgot
43	ver/gest	c to m&f	cont(I)	see my color see my bright colors /points to arm/
44	ver	m to c	R	mhmh
45	ver	c to m	cont	that I drew
46	ver	m to c	I	did you draw on your arm today
47	ver	c to m	R/(I)	yeah but it was the pen
48	ver	m to c	R	oh
49	ver	f to c	I	did you try to wash it off
50	ver	c to f	R	mhmh
51	ver	f to c imp m	Ir	how hard
52	ver	m to c	R	/m laughs/
53	ver/gest	c to m&f	R/(I)	on my on my arms still color /points to arm/
54	ver	m to c	R	mm
55	ver/gest	c to f	cont(I)	cause I had to wash them off (with the sink) /points to arm/

56	ver/gest	m to c	I	(are you) getting pink on your banana
57	ver/gest	c to m	R/(I)	I got pink on my thumb /holds up thumb/
58	ver	m to c	R	oh
59	ver/gest	c to m	cont	mm and my pink on my finger /holds up finger/
60	ver	m to c	R	mhmh
61	ver/gest	c to m	cont(I)	and my pink on this /wiggles finger/ blue that's blue
62	ver	m to c	R/I	that's blue pink and blue fingers mm
63	ver/act	f to c	I	want some carrot /offers c carrot/
64	ver	c to m	cont(R)	and yup and this is
65	ver	f to c	Ir	did you say thank you
66	ver	c to f	R/(I)	thank you
67	ver	f to c	R	you're welcome
68	ver/gest	c to m&f	cont(I)	and and paint here /points to arm/

Episode 2

191	ver/gest	m to c	Ir	were they marking pens
192	ver	c to m	R	mhm
193	ver	f to c	Ir	were they Anna's marking pens
194	ver	c to f	R	mhm
195	ver	m to f	I	/m laughs/ that's telling

196	ver	f to c	R/(I)	you're not supposed to use them when we're not around
197	ver/gest	c to m&f	R	mmh /shakes head/
198	ver	f to c	R	mmh
199	ver	m to c	R	/m laughs/
200	ver	m to c	I	did you ask Anna if you could use her colored markers
201	ver	c to m	R	mm mmhm
202	ver	m to c	Ir	did you ask her or did you forget
203	ver	c to m	R	I forget
204	ver	m to c	R/(I)	you forget /m laughs/
205	ver	f to c	I	can you remember next time
206	ver	c to f	R	mmhm
207	ver	f to c	Ir	to ask Anna
208	ver	c to f	R	mm
209	ver	m to f&c	R	mm
210	ver	m to f	I	good bread /m laughs/

Subject 16-36

Example 7.11

In Turn 40, the child introduces a topic meant for both his parents. He is interrupted by his mother and then points to his arm. The father also interrupts the child but the child continues the topic. He repeats "see my" and points to his arm again. The repetition and pointing employed by the child may very well be used to increase the redundancy of the turn because of the interference created by the mother and father.

The mother makes a very neutral comment in Turn 44 that allows the child to continue the topic. The mother's question has the effect of moving the topic along. It also moves the child into shaky territory and this is reflected in Turn 47. When the mother tries to pin the child down by asking him if he wrote on his arm, the child tries to distance himself from the action by suggesting that it was the pen rather than he who did the writing. By introducing the notion of the pen doing the writing, he creates an initiation to which the mother has the option of responding. She does respond but in a rather neutral manner by merely acknowledging the child's turn. The father then enters the discussion and begins to question the child. One can't help but think that this is what the child had been trying to avoid because later in the interaction it becomes clear that the child should not have been using these markers because they belong to an older sister. There is a sense from about Turn 46 that the child is trying to avoid discussing certain aspects of his actions he is describing about the markers. For this child, it demonstrates some understanding and anticipation of where his parents' stand on this issue.

This child's apparent anticipation of possible problems ahead for himself and the difference in the way he responds to each of his parents would tend to suggest that he is sensitive to his parents different perspectives of the situation under discussion. (The mother seems quite happy to let the child continue the conversation while the father is more concerned with whether the child tried to wash the marks off his body; getting the child to say please and determining the ownership of the marking pens.) The mother provides the child with a way out of his trouble by suggesting that may be he asked his sister if he could use her markers and then suggesting that may be he just forgot to ask her. She then completely changes the topic in Turn 210 after the father has made it very

clear that the next time the child must ask his sister's permission. This effectively ends the child's problem with his father.

The child in this interaction is dealing with two very different styles. The mother is very mild mannered and accepting while the father appears much more directive. This child is able to cope with this difference quite effectively. He makes a point of responding to the father's questions but gravitates to the mother for the "comfortable" part of the interaction. The mother almost works with the child to soften the impact of the father's comments. Hobson (1991)) argues that children do not develop a "theory" that people have minds but rather "that what children acquire is knowledge of persons with minds, and that they do so through experience of interpersonal relations." The child in the above example is clearly gaining that experience.

In Turn 51, the father asks the child how hard he tried to remove the marker from his arm but it is quite possible that the child does not quite understand what the father is asking because of the ellipsis in Turn 51. The child does not respond to the father but he does to his mother. Once again this is probably the safer choice. Mother and child then proceed to discuss the marks on the child's hands for the next seven turns. At Turn 63, the father interjects and asks the child if he wants some carrot. The child then tries to answer the father's question and continue his conversation with his mother in the same turn. The father requires the child to say "thank you". The child complies and then continues discussing the marks on his arm with his mother.

Out of the 28 turns presented above, the child takes 11 turns that are concerned with marking pens. He manages to stay on topic through two interruptions, one unclear question and two interjections.

It may be noteworthy that this is the third child in a family of four children and one cannot help but wonder whether the experience he has gained living in a family of six might have assisted him in dealing with multispeaker situations. It has been argued that although when mothers speak to more than one child, mothers tend to be more directive (Tomasello, Mannle & Kruger, 1986) and address fewer utterances to each child (Jones & Adamson, 1987). Both of these traits are considered to be unfavorable communicative aspects for language growth (Tomasello & Farrar, 1986) suggesting that the multichild speaker environment is a less than optimal situation for language learning. Barton and Tomasello (1991), however, have suggested that there may be some positive aspects to multichild interactive settings involving the development of pragmatic skills. Children in this situation may be exposed to a more stimulating and challenging linguistic environment with more varied communicative styles.

7.5 Reinitiations

A reinitiation is a behavior which attempts to elicit a response following a null or unsatisfactory response. This section will examine what can happen when some of these violations occur. Do young children recognize that a violation has occurred? How do members in the interaction react to these violations?

Pellegrini, Brody and Stoneman (1987) referring to Grice's work suggest that people must cooperate with one another for meaningful, successful communication to occur. He proposed four conversational maxims that define this cooperative principle.

- 1) Quantity: Utterances should be as informative as the situation requires, but the contribution should not convey more information than is needed.
- 2) Quality: Utterances should not be false, and one should not make statements for which there is no evidence.
- 3) Relation: Utterances should be relevant to the topic of discourse.
- 4) Manner: Utterances should be brief and orderly, neither obscure nor ambiguous. (p.98)

By far the most common form of violation in this study was a violation of quantity. This usually involved the child failing to respond to a request for information or action.

The Example 7.11 in the previous section illustrates other types of violations. In turn 41, the mother interrupts the flow of the interaction with a relation violation. The child valiantly carries on in spite of the father entering the interaction. The child in a sense commits a violation of quality by attempting to infer that it was the pen that did the drawing and he really had very little to do with it. The father breaks the interaction occurring between the mother and the child in Turn 49 with another violation of relation. He does the same thing in Turn 63. The child coping with this situation has already been discussed.

No response turns on the part of the child were discussed fairly extensively in Chapter 3 so they will not be described again. Of more interest here is the reaction of young children to parental violations of these maxims. There were a number of examples of 12 month old children who appeared to recognize breakdowns in the interaction.

Although it is not possible to determine the specific intent of these young children's reactions to parental violations, it is possible to examine the

children's behavior in terms of its effectiveness and appropriateness within the interaction.

No	Type	Direction	Function	Turn
58	act	c to m	I	/bangs spoon on plate looks at m/
59	nr	m		
60	ver/act	c to m	Ir	/child bangs spoon/ ah

Subject 4-12

Example 7.12

Children in triadic interactions do not necessarily have the undivided attention of their parents. The mother, in this case, is busy picking up food that the child has scattered around his plate. The child tries to gain her attention by banging his spoon on the table and looking at her. This is a technique that has worked in earlier interactions for gaining the father's attention. The mother is preoccupied and misses the child's attempt to gain her attention. The child then repeats the behavior and this time accompanies the action with a vocalization. This has the desired effect of gaining the mother's attention. The addition of the vocalization has the effect of stressing the interactive attempt and successfully gaining the mother's attention. If this interpretation is correct, it would suggest that this child has some sense that he has failed to gain his mother's attention and he uses a stronger interactive technique to attain ultimately his goal of attracting his mother's attention. This could possibly be one of the earliest form of repair used by the child.

In the following example, the child appears to respond appropriately to the father's request for clarification.

No	Type	Direction	Function	Turn
18	ver/act	c to f	I	nam, mmm, mmm /turns to look at f/
19	ver	f to c	Ir	nam, nam
20	ver/gest	c to f	R	nam, nam /nods head/
21	ver	m to c	R	nam, nam it's good

Subject 9-12

Example 7.13

This is an interesting example of the child possibly recognizing the father's repetition of "nam nam" in Turn 19 as a request for confirmation or clarification of what she said. In Turn 20, she nods her head and repeats the utterance more clearly for him. The mother takes this interpretation and glosses the child's response as "num num it's good".

In this next example the mother combines the information contained in the child's action and vocalization and rephrases the request and the child appears to recognize it as a reinitiation.

No	Type	Direction	Function	Turn
53	ver/act	c to m&f	I	nana /reaches for banana/
54	ver	m to c	Ir	banana, would you like to have some of that banana?
55	ver/act	c to m	R	naana /hands banana to m/

Subject 9-12

Example 7.14

This is another example of the 12 month old child possibly recognizing the need for clarification. In this case, the child reaches for the banana and labels it in Turn 53. The direction of Turn 53 is not clear, it is one of those turns which young children seem to throw out to be caught by either parent. In Turn 54, the mother questions the child as to her intent. The clarification is provided in Turn 55 through the action of the child handing the banana to the mother and directing Turn 55 clearly to the mother.

Occasionally parents used a reinitiation as a form of humor.

No	Type	Direction	Function	Turn
83	ver	m to c	I	do you want how much do you want a little glass or a big glass
84	ver	c to m	R	little glass
85	ver/act	m to c	I	there you go if you want a more later you can have some more /hands glass to c/
86	ver	m to f	I	do you want some milk
87	ver	f to m	R	yes /hands m glass/
88	ver	m to f	Ir	big /m laughs/
89	ver	f to m	R	yes

Subject 16-36

Example 7.15

The mother asks the child a two choice question about whether he would like a big or a little glass of milk. The mother then turns to the father and asks him if he would like a glass of milk and the father replies he would. The mother then through a reinitiation asks the father if he would like that to be a big glass.

The humor comes as a result of the repetition of the same question asked of the child. The mother clearly gives the child two choices but when she poses essentially the same question to the father it is in a much abbreviated form. The child has the opportunity of observing his father deal with the same situation he has just coped with but in a more mature fashion.

The degree of attentiveness described earlier in this chapter is not continually present in the interactions with all the children. In fact, the triad can be a challenge for the child to enter because parents can become involved in a conversation that does not include the child.

No	Type	Direction	Function	Turn
223	ver	f to m	I	with a CD ROM in it, no soundcard, just a CD ROM
224	ver	m to c imp f	R	you can't play Grandma on the Beach without a soundcard
225	ver	f to m	R	I know
226	ver	m to f	cont(I)	or a putt, putt
227	ver	f to m	R	I know (.35)
228	ver	c to m	I	ma, no more juice
229	ver	m to c	R	oh drink your juice
230	ver	f to m	I	well, what I'm thinking', we could move the soundcard and CD from our machine into that
231	ver	m to f	R	mm hmmm
232	ver	c to m&f	Ir	mmmm
233	ver	f to c	R	what's your problem

234 ver/act m to c R all done/shakes empty juice
container/

235 nr c

236 ver/act m to c I open/holds bun to c's mouth/

Subject 15-24

Example 7.16

The parents have been carrying on a conversation about their computer needs for the previous 20 turns. The child addresses the mother to tell her that he has finished his juice but she misunderstands him and tells him to continue drinking. The child then begins to whine and gains his father's attention. The interaction then shifts back to the parents.

This child demonstrates that the child has some awareness of how to interject in the interaction because he is able to accomplish the interjection without creating a vocal clash. This would be consistent with the work of Dunn & Shatz (1989) who reported that two year old children were capable of joining the interaction occurring between mothers and a three year old sibling. It is certainly possible that by two years of age this child has learned that he meets with less success in gaining his parents' attention when he vocalizes at the same time as them. He also defines for whom the turn is meant therefore making the direction of the turn clearer. By identifying his mother by name, he increases his chances of gaining her attention (Forrester, 1993).

His mother misunderstands him and then returns to the discussion with the father. The next entry the child makes takes the form of whining. It is quite possible that the child does not have the language to let his mother know that she misunderstood him. All the child knows is that the mother has failed to

meet his expressed needs. It is also interesting to note that in Turn 228 the child goes out of his way to specifically address the mother but in Turn 232 he addresses his reinitiation to both parents.

Bruner (1983a) considers this initial turn to be a supportive request. This type of turn increases dramatically at about 18 months. He contends these turns arise not from the increase in sensorimotor ability but from an new-found understanding that other people can be used as instruments to assist the child in reaching his goals. Bruner also comments that children demonstrate a degree of patience but if their goals are not reached quite quickly tend to become quite impatient. This may account for the whining in Turn 232. It is also possible that this child simply does not have the patience or the communicative ability to reframe his request in a verbal form.

As Bruner contends referring to children moving through this process:

[the child] must travel the path from raw demand signaling to the fulfillment of felicity conditions on request. At the same time, he must combine these achievements with referential ones of increased complexity - displaced referring to absent objects, procedures for referring to punctual and iterative actions and the like. As his requesting becomes more complex, his needs to refine it by the addition of regulatory function through which he can define how his request is to be fulfilled. (p.125)

This child has clearly moved beyond the point of simple demanding. He is able to indicate that his concern is with his lack of juice and he has identified his mother as the person he wants to do something about it. The problem comes when the communication breaks down. He then reverts to a much more primitive form of signaling.

It is quite possible that experience in multispeaker situations is important for children to develop some of these more sophisticated interactive skills.

They are exposed to some different aspects of communication that are not available to them in the dyad. Barton and Tomasello (1991) suggest three possible benefits for language learning in a multichild speaker environment.

- 1) Homes with older siblings may provide a more stimulating environment for the child, exposing him to different communication styles and different relevant language models (Woollett, 1986).
- 2) Young children are required to adapt their communication skills to be successful with other children who do not possess the perception or linguistic abilities as the mother (Mannle & Tomasello, 1987).
- 3) Multichild speaker situations may provide the child with an opportunity to overhear language among other people thus giving the child a chance to be exposed to deictic terms and third party reference from a different perspective (Forrester, 1988).

Barton and Tomasello were able to demonstrate that children as young as 19 months were able to engage in triadic conversations with their mothers and older preschool siblings. The young children showed an awareness of topic demonstrated by one third of the infants' first turns taking the form of joining an ongoing conversation and an additional one third providing a continuation to the conversation. They conclude that triadic multichild speaker situations can provide an opportunity for exposure to more protracted conversations and practice in joining and maintaining a conversation.

From some of the examples presented in the chapter, it would appear that these three benefits may also be present in aspects of the mother, father and

child interaction although in a slightly different manner. There may very well be some differences in the communication styles used by parents. An example is presented here of a child dealing with a very conversationally compliant mother and a very directive father. Examples are also presented of parents discussing an issue between themselves with the child overhearing the exchange. It is suggested that this provided an opportunity for children to observe the successful and smooth shifts in turn taking that occur between competent communicators.

7.6 Summary

This chapter examines how the interactive behaviors were coded to reflect the communicative functions in the interaction. The discourse coding strategy was based on one developed by Wells (1979) and later applied by McTear (1985).

Examples are also presented in this chapter to illustrate how the interactive coding strategy was applied. Appendix D presents the definitions for the turn types and the symbols used to represent them.

Initiations were the first discourse function presented. Examples were presented illustrating parents attributing meaning to children's actions and therefore defining these actions as initiating turns. The work of Harris (1992) was cited as support for this interpretation. Harris reported that mothers responded to different aspects of their children's behavior. Mothers of seven month old children tended to respond to changes in the direction of gaze. By 10 months, mothers were more likely to respond to actions of their children and by 16 months they showed a preference of infants' vocalizations with and without accompanying actions. Both mothers and fathers in this study were

observed responding to child initiated actions, vocalizations and shifts in gaze. Chapter 9 will look at the relative importance of these interactions within the triad.

An example of parents discussing the child's initiations was also presented and the possible implications of overhearing was discussed. It was suggested that parents discussing the children's actions with one another might very well be a strategy for creating a state of joint attention, modeling turn taking and topic maintenance within the triad.

The role that formats can play in providing a familiar, predictable interactive situation was examined. An example was presented illustrating a 24 month old child controlling the interaction through the use of initiating gestures. She was able to maintain this "chairing role" for a total of 14 turns and involve both parents through out this part of the interaction. This example reinforces the notion that the direction of the turn needs to be taken into consideration when studying interactions among parents and their young children and it highlights the need to include nonverbal communicative behavior to reflect clearly the interaction.

Grice (1975) proposed that people must cooperate with one another for successful communication to occur. He defines four maxims necessary this to happen. These maxims are defined in terms of quantity, quality, relation and manner. Reinitiations were defined in the context of these maxims. Violations of quantity in the form of no response turns were the most frequent form of violation. Violations of quality and relations were also pointed out.

It has been reported that fathers experience more difficulty adjusting their speech to the linguistic level of the children (McLaughlin, White, McDevitt and Raskin (1983) tend to be more directive (Andrews and Ratner, 1987) and used more varied labels than mothers in their interactions with their children. The issue in the parent child triad may be more one of coping with differences in goals, attitudes, emotions and expectations than of coping with linguistic differences.

Opportunities for overhearing were also presented here. Two different situations were reported where overhearing did occur. One involved the parents discussing something salient to the interest of the child and the second opportunity involved the parents discussing an issue unrelated to the current interests of the child.

It is concluded that interaction in the triad at times presented different challenges for the participants and that the triad might very well provide a richer context than the dyad for the development of pragmatic skills in particular.

Chapter 8

Analysis of No Direction Turns

This chapter describes the use of no direction turns. Two types of no direction turns were identified: unintentional initiations and no response turns. Their occurrence and use among the three age groups will be discussed in this chapter.

8.1 No Direction Turns

The examination of no direction turns provides an opportunity to explore the way parents incorporate incidental behavior from the child into the interaction. Were there differences in the way parents did this? Did their responses to these behaviors change as the children became more communicatively competent?

No response turns on the other hand provided the opportunity to gain some insight into the ability of each member of the triad to respond to turns directed at them. Were there differences in failures to acknowledge turns for any members of the triad? Did this become less frequent as the children became more communicatively competent?

8.2 Unintentional Initiations

Typically initiations take the form of requests for specific information or actions and statements (McTear, 1985). In this study, a fourth type of initiation was defined. This was the unintentional initiation (UI) which occurred when a behavior was considered to be part of the interaction because another member of the triad attributed meaning to it. Parents often

incorporated a child's action with the effect of drawing the child into the interaction. The inclusion of this form of initiation was particularly important with the 12 month old children because parental contributions to the interaction often arose from these unintentional initiations. These initiations formed an important part of the structure of the interaction and therefore needed to be included. Children's UIs are interesting turns to examine because they demonstrate how parents are able to take non-communicative actions from the children and incorporate them into the interaction.

Although parents were observed to take an occasional UI turn, the majority of these turns were taken by children and it is the children's UI turns, which are of interest here. UIs consist of turns which do not seem to be related to previous turns and appear to reflect virtually no communicative intent on the part of the individual performing the turn. In this study, they often involved the child reaching for or dropping something. They also took the form of spontaneous respiratory functions such as coughing and sneezing. They were always responded to by one or both of the other members of the triad.

8.2.1 Attributing meaning to the UIs

Were mothers more likely to respond to UIs because they were the individuals most involved with the child in the interaction or were fathers more likely to use this tactic because they were functioning as a supporter or an observer more of the time and therefore were more likely to be able to identify this behavior and attach meaning to it?

To answer this question, each UI was identified and then the response was classified as being taken by either mother, father or resulting in a joint turn. When both parents simultaneously responded to the turn, it was classified as a

joint turn. However, when one parent attributed meaning to the child's behavior and this was followed by the other parent attributing meaning; two turns were recorded. Example 8.1 illustrates the difference.

No	Direction	Turn
437	c	/pulls soup bowl over to her/
438	m&f to c	[more soup]
439	c	/pulls juice over/
440	f to c	oh juice
441	m to c	more juice oh careful mmmm
442	c	/takes drink of juice and almost spills it as she sets it down/
443	m&f to c	you just about dumped that on me Lindsay /f moves cup to table/

Subject 12-24

Example 8.1

Turn 438 is recorded as one turn because the parents comment on the child's action in unison. The child then proceeds to pull a glass of juice toward herself in Turn 439 and the father and then the mother comment on this action. These are counted as two separate turns because the parents act more independently.

The use of responses to unintentional initiations (RUI)s was determined by taking the number of RUIs for each parent and dividing it by the total number of dyadic responses directed at the child taken by each parent respectively. This resulted in a proportion of parents' responses to unintentional initiations as a function of the turns addressed to the child. There were too few joint

responses to include in this consideration. Figure 8.2.1.1 illustrates the mean occurrence of RUIs for mothers and fathers for the three age groups.

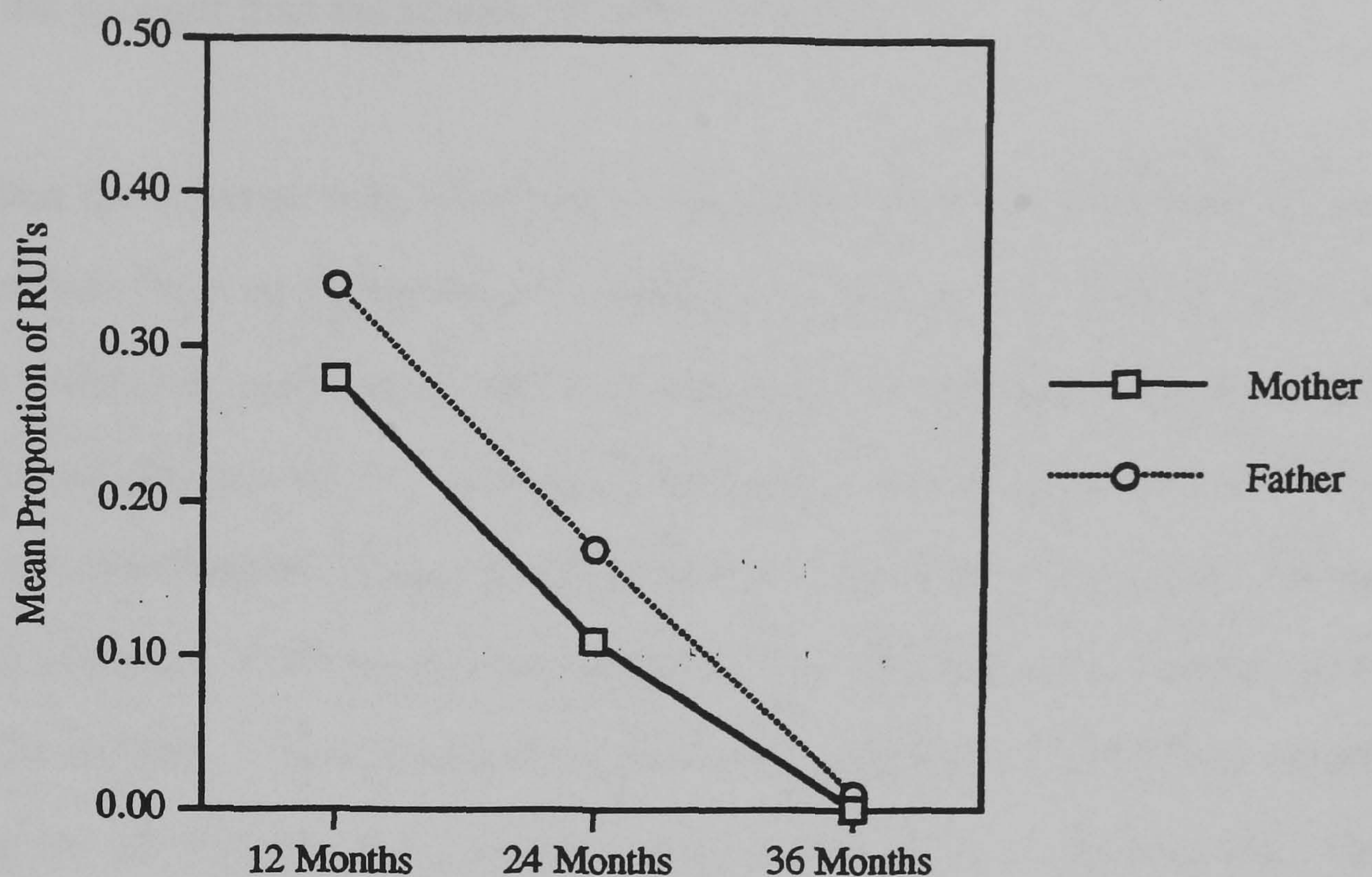


Figure 8.2.1.1 The mean proportion of mothers' and fathers' RUIs as a function of the number of dyadic turns they directed to the child for the three age groups.

The mean proportion of RUIs for mothers and fathers decreases as the age of the children increases. At 12 months, RUIs accounted for more than half of the turns parents directed to the child. At 24 months, they were less important for both mothers and fathers accounting for approximately one quarter of their responses. By 36 months, they had almost disappeared.

8.3 The function of RUIs

These findings raise several additional questions. To what type of behavior do parents respond when creating RUIs? Why are they used more by the parents of the younger than the parents of older children?

When the behavior was examined, it was clear that action turns were the most common form of unintentional initiations. There were a total of 169 RUIs. By definition, turns involving true vocalizations were not considered to be unintentional initiations. As a result only three vocalizations were considered to be unintentional initiations and these took the form of coughing, sneezing and whining. Shifts in gaze accounted for two UIs, one at 12 months and one at 24 months. These findings are consistent with Harris (1992) who reported that by 10 months child initiated actions defined what mothers were most likely to talk about rather than child initiated episodes triggered by shifts in gaze. In the triad, it appears that both fathers and mothers tend to respond to unintentional initiations that take the form of actions at 12 months and to a lesser extent at 24 months.

RUI utterances were generally made by parents and were used to comment on the behavior recently produced by the child. They provide an opportunity for parents to attach communicative intent to an action otherwise containing very little communicative value. They also help establish joint attention between the speaker and the child. In this case, when both parents engage in the RUI or when they discuss the child's behavior with one another, parents manage to create a situation where joint attention involves all three members of the triad.

Locke (1996) contends that:

behaviours facilitating the developing of language are not set in motion by the infant's anticipation of linguistic and communicative benefits to come. Appreciation of this disassociation frees developmental researchers to explore potentially influential variables that otherwise would go unnoticed. (p.264)

It is possible therefore to more accurately reflect interactive function with young children by including actions that, taken on their own carry very little communicative intent, but have meaning attributed to them by parents. It is this behavior that provides the focus for the establishment of joint attention.

The change in the proportion of RUIs between the older and the younger children may reflect parental adjustment to the change in the child's linguistic competence. It seems reasonable to assume that parents' RUIs are representative of their ability to weave the younger children's behavior into the interaction when necessary. Parents are able to attach intent to the children's behavior and incorporate it into the ongoing interaction. There is less of a need to use these behaviors as interactive acts as the children's linguistic competence increases because the unintentional initiations are supplanted by intentional interaction. It would seem likely therefore that the only time this behavior might become part of the interaction with the older children is when parents have either a very negative or a very positive reaction to some form of non-interactive behavior from the children. If changes in the proportion of RUIs are reflective of the changes in linguistic competence then this should be reflected in a change in function of the RUIs. RUIs that take the form of comments on non-communicative behavior would then become less important in the interaction as the children become more linguistically competent and comment RUIs would likely decrease for the older children. Control RUIs however are likely to be more dependent upon the acceptability of the

children's behavior so age of the children should be less of a factor and the proportion of control RUIs should not change significantly as a function of age.

Responses to unintentional initiations were identified as either comment RUIs or control RUIs. Comment RUIs usually took the form of statements that were used to describe the children's behavior and questions that requested information about the state of the children. Control RUIs were often imperatives that parents addressed to their children indicating what the parents wanted the child to do. Example 8.2 illustrates a comment RUI.

No	Direction	Turn
110	c	/bangs on plate/
111	m to c	there's your plate /taps plate/, this one's mummy's /points to plate/

Example 8.2

Subject 4-12

The child in this example attracts the mother's attention by banging on his plate. He doesn't look up at her or indicate in any other way that he is interested in her. She is the one who gives the turn intention by commenting on ownership of the plates. This is contrasted with the control RUI in the following example.

No	Direction	Turn
168	c	/tries to get down off of chair/
169	f to c	come on Leslie you have to stay sitting you're not done eating yet
170	m to c	all right you sit up here /picks up c offers apple/ want a piece of apple

Example 8.3

Subject 7-12

This is a good example of the father's and the mother's RUIs being used to try to control the child's behavior and keep the child seated. The father and then the mother tell the child he is to sit down and finish eating and then the mother changes the topic in an attempt to distract him from trying to get down from the table and to draw his attention back to the food on the table. This sudden change in topic is used frequently by the parents in situations where there is a need to redirect the children's attention.

The proportion of comment and control RUIs was calculated by determining the number of each type of RUI and dividing it by the number of dyadic turns taken by each parent and directed at the child. The mean was then determined for each of the three age groups for control and comment RUIs. The results are shown in Figure 8.3.1

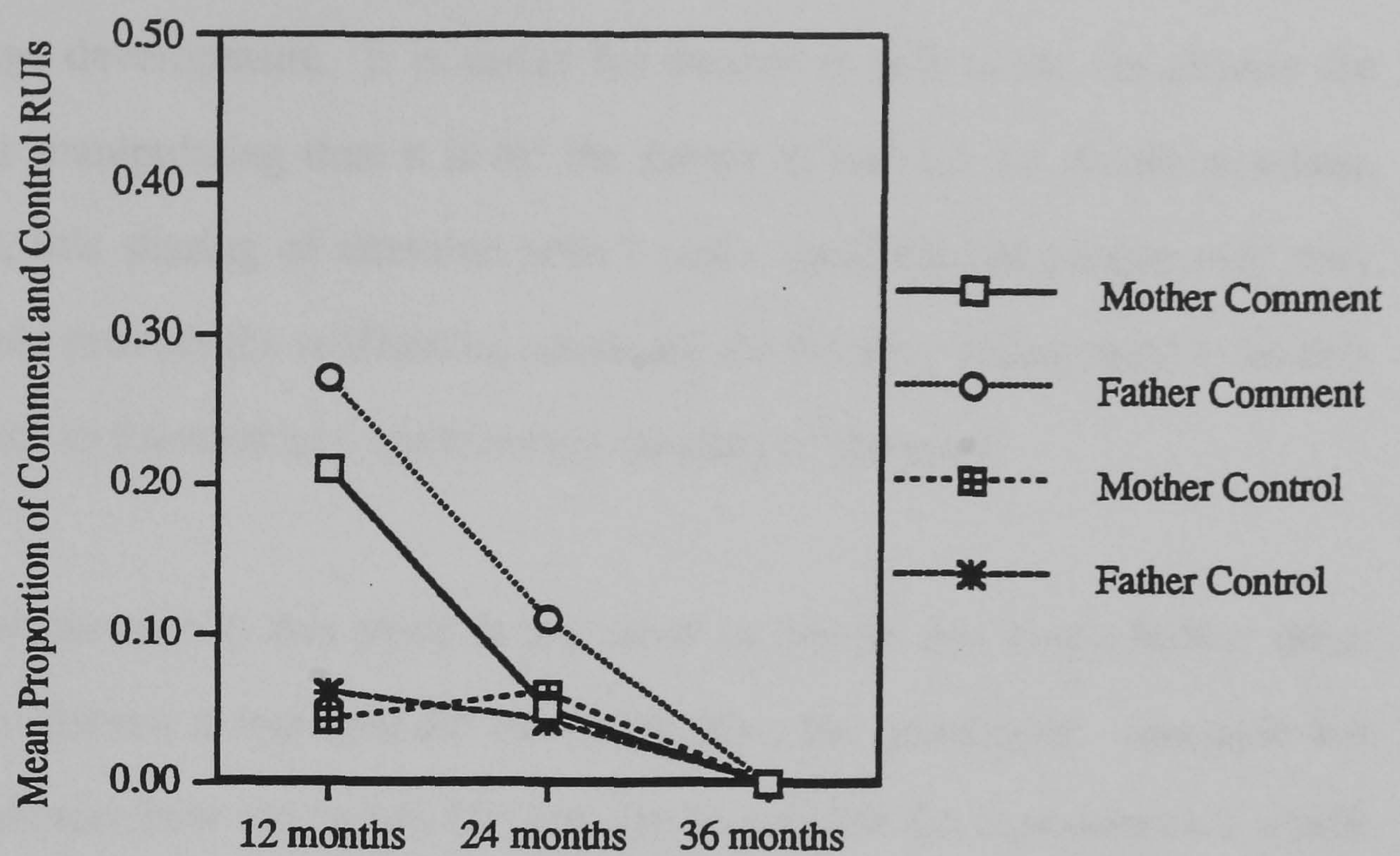


Figure 8.3.1 The mean proportion of mothers' and fathers' comment and control RUIs as a function of the number of dyadic turns they directed to the child for the three age groups.

Comment RUIs represent a larger portion of both parent's RUIs at 12 months than at 24 months. The proportion of comment RUIs decreases dramatically over this period while the proportion of control RUIs remains fairly constant for the father and the mother. As previously noted, RUIs have almost disappeared by 36 months. These findings suggest that control RUIs do not seem to be age dependent. They likely reflect accidents which happen or children's behaviors which arise which are not acceptable to parents at the time. Comment RUIs on the other hand are more likely to result from parent's attempts as Snow (1977) suggests to keep the adult child conversation going and to maintain joint attention.

Tomesello and Todd (1983) demonstrated that there is a relationship between mothers' ability to establish and maintain joint attention and subsequent language development. It is easier for parents to talk about the objects the child is manipulating than it is for the parent to redirect the child's attention. In fact, this sharing of attention with a more sophisticated partner may very well help provide the scaffolding necessary for the very young child to be able to appear to function as a contributing member of the triad.

The sample size in this study is too small to pursue this much further other than to discuss a few specific examples from the transcripts. Example 8.4 demonstrates how the child's UIs are able to provide the framework on which the parents are able to hang their interactions.

No	Type	Direction	Function	Turn
184	ver	m to c	I	here pick up
185	act	c to f	R	/picks up pear/
186	ver	m to c	R/(I)	that's a boy
187	ver/act	m to c	I	mommy hold that/holds out hand/
188	act	c	I	/drops pear/
189	ver	m to c	R	oh
190	act	c to m	I	/reaches for wash cloth/
191	ver	m to c	R	mommy hold that
192	act	c	I	/c drops pear/
193	ver	m to c	R	oh
194	act	c to m	I	/reaches for pear and picks it up/
195	ver/act	m to c	I	mommy hold that /takes cloth away from c/
196	act	c	I	/drops pear/

197	ver	m to c	R	oh
198	ver	f to m	I	he squished it
199	act	c	I	/tries to pick up food/
200	ver/act	f to c	R	here let me help you there you go /hands pear to c/

Example 8.4

Subject 5-12

Through Turns 184 to 200 the child is successfully involved in the interaction merely by trying to pick up a piece of pear from the table and by handing a washcloth back and forth with his mother. The mother feigns disappointment when the child drops his pear on the table. The father eventually is drawn into the interaction when he comments that the child has squished the piece of pear. The child's actions provide a focal point and define the topic of conversation for the family. His actions are treated as legitimate means of communication from which the parents are able to respond with laughter and disappointment. These are not reactions parents would be able to provide in response to anything the child says at this stage of development. It seems likely that these UIs allow the child to experience aspects of the interaction for which he does not yet have the linguistic competence. The RUIs used by the parents reflect back to the child some of the responses he would receive had he articulated something much more sophisticated. By attaching meaning to actions which have little communicative intent parents are providing opportunities for children to participate in the interaction.

In the three age groups, there were a total of 82 joint turns. These were turns taken by two or more members of the triad and approximately 16% of these turns were RUIs. Mothers and fathers came together in joint turns in response

to children doing something of which parents either strongly approved or disapproved. RUI joint turns took the form of unison or latched turns. They also took the form of a verbal turn being taken by one parent and a complementary action turn being taken by the other parent as illustrated in the following example.

No	Type	Direction	Turn
439	act	c	/pulls juice over/
440	ver	f to c	oh juice
441	ver	m to c	more juice oh careful mmmm
442	act	c	/takes drink of juice and almost spills it as she sets it down/
443	ver/act	m&f to c	you just about dumped that on me Lindsay /f moves cup to table/
444	ver	m to c	that's good
445	act	c	/takes spoonful of soup and drink of juice/

Subject 12-24

Example 8.5

Because RUIs frequently arise from an accident caused by the child, action and verbal turns are often combined as in this example. The mother comments on the child's behavior and the father moves the cup so it doesn't happen again. This is a good example of parents working together in response to the child's action.

The following example illustrates how a sneeze can form a UI.

No	Type	Direction	Discourse	Turn
198	ver	c	I	/sneezes/
199	ver	m&f to c	R	awhh {oh oh Kleenex alert}
200	ver/act	m to c	cont	lucky we had one, whoops /wipes c's nose/

Example 8.6

Subject 4-12

In this example, the mother and father combine the turn through a verbal latched turn and then the mother continues and enters a new turn in Turn 200.

RUIs provide an opportunity for parents to respond to and attach meaning to children's actions. They allow the child the chance to overhear parents discussing these actions and they provide an opportunity for children to enter the interaction and have parents attach communicative meaning to their actions.

8.4 No response turns

As previously mentioned, no response turns were included in the analysis of the interaction because they helped define the turn boundary. It was also thought that they might provide some indication of communication failure within the triad. Tomasello, et al. (1990) in their study of breakdown repair sequences with children aged 15 months and 21 months in a dyadic interactions found that fathers were more likely to fail to acknowledge their children's utterances than mothers. They combine this with other measures of conversational breakdown to suggest that fathers help children bridge the

communication gap between interactions with their mothers and interactions with the outside world (Gleason, 1975). Conversely, Pellegrini, Brody and Stoneman (1987) demonstrated that parents adopted a similar style for a variety of measures concerned with breakdown within the conversation based on the violation of Grice's conversational maxims. They found that young children's violations typically involved providing no information or not enough information. No response was the most common violation. There is an expectation that some turns in the interaction require a response. This response can be in the form of an acknowledgment, an agreement, or disagreement, a comment or some form of compliance through a nonverbal behavior. The children in their study were 27 and 48 month olds who were audio recorded in a play situation so the role of nonverbal behavior could not be included. It is likely that there would be a difference in parental acknowledgments if nonverbal behavior is taken into consideration.

No response turns can be viewed in the context of Grice's maxims (Grice 1975). Grice identified four conversational maxims: quantity, quality, relation and manner. The maxim pertinent to no response turns is quantity. This maxim states that utterances should be as informative as the situation requires. The provision of either too little or too much information is a violation of the maxim.

Although Grice's maxims were developed to refer to conversation, they also seem to apply to more primitive interactions. In the following example, no utterances occur between the father and the child but it seems clear that the father has not responded appropriately to the child's turn in the interaction.

No	Direction	Type	Turn
36	c to f	gest/act	/bangs spoon and smiles at f/
37	f	nr	

Example 8.7

Subject 4-12

The appropriate response for the father in this example would have been for him to look at the child. The father was considered to have violated the maxim because he did not direct his attention at the child. In fact, most of the violations of this maxim involved an individual failing to provide attention when it was requested from another member of the triad.

There were a few exceptions however. Occasionally one member of the triad would appear to address a comment to another member of the triad, usually the child, but the meaning of the utterance was clearly meant for the other member of the triad. The younger children, when faced with this situation, would typically not respond and in some cases the parent would appear to respond for them as in the following example.

No	Direction	Type	Turn
26	f to c imp m	ver	I think maybe just a little bit less
27	c	nr	
28	m for c to f		naaww

Subject 4-12

Example 8.8

It is highly unlikely that a 12 month old child can be expected to understand an utterance as complex as the one used by the father even though the

utterance appears to be directed at the child. The mother takes the child's turn and provides the appropriate response for him. In this way parents are able to model both sides of the interaction for the child.

Sometimes an individual would not respond to a turn because it appeared to be the least offensive form of disagreement as in the following example.

No	Direction	Type	Turn
165	c to m	ver/act	more/points to cheese/
166	m	nr	

Subject 10-24

Example 8.9

The mother to this point has been telling the child that he has to eat the packet of cheese that is open and that he can not open another packet. The child points to an unopened packet and requests cheese from it and the mother ignores his request. This is likely a deliberate violation of the maxim in an attempt to de-emphasize the child's request.

Mother to child, father to child, child to mother and child to father turns that precipitated no response turns were identified. The proportion of the total number of turns taken by an individual in a given direction was then determined. The means and the standard deviations for the three age groups are presented in Table 8.4.1.

Table 8.4.1

Mean Proportion of No Response Turns Following Dyadic Turns

Age	Direction			
	m to c	f to c	c to m	c to f
12 Months				
Mean	.12	.12	.03	.02
Standard Deviation	.04	.05	.03	.02
24 months				
Mean	.09	.08	.01	.01
Standard Deviation	.03	.09	.01	.01
36 Months				
Mean	.04	.04	.01	.01
Standard Deviation	.02	.02	.01	.02

These data suggest there is little difference between mothers' and fathers' unsuccessful attempts to communicate with their children, i.e. children do not appear to be any less responsive with their mothers than with their fathers. These child no response turns tend to decrease with age. On the other hand, parents rarely miss children's communicative attempts as shown in the two right hand columns. These findings are consistent with those of Pellegrini, et al. (1987). The rather large standard deviations however suggest that other factors such as the degree of alertness, compliance or cooperation on the part of the child may effect the responsiveness of the child.

8.5 Summary

The analysis in this chapter reveals the similarity of mothers' and fathers' responses to their children's unintentional initiations. This type of no direction turn occurs most frequently at 12 months of age and steadily decreases to 36 months of age where it virtually disappears. It was suggested that responses to unintentional initiations (RUIs) are used to involve the 12 month old children in the interaction to keep the conversation going and to establish joint attention. This is supported by the decrease in comment RUIs across the three age groups where as virtually no change to control RUIs was noted.

No difference was noted in the proportion of children's no response turns following mothers' and fathers' child directed turns. There was however a reduction in the proportion of children's no response turns from 12 months to 24 months to 36 months. By 36 months, the proportion of children's no response turns approached those of the adults.

Chapter 9

Dyadic Turns and Double Dyadic Turns

This chapter examines initiations and responses and the behaviors that comprised them. It examines the types of turns members of the triad addressed to one another and the consequences of those turns.

9.1 Dyadic Turns

Barton and Tomasello (1994) point out that reported similarities in mother's and father's speech are more pronounced with younger children and these similarities pertain to the structural-linguistic aspects of language. They argue that the difference in mothers' and fathers' speech may be more pronounced in the conversational or pragmatic domain because mothers are likely to be more familiar with the child's experience and linguistic ability. Therefore, mothers will be more skilled at integrating language with nonverbal information into a meaningful, ongoing, conversational context. In this regard, Hladik and Edwards (1984) examined mothers' and fathers' speech to two and three and a half year olds. They reported that mothers play more of an initiating role and fathers tend to be more reactive. They reported that in triadic settings the language used was more grammatically intact than in dyadic settings. Parental MLU's were longer and utterances were more complete and well formed than in the dyadic context. They did not however consider the nonverbal components of the interaction or the direction of the turns.

Several studies have addressed the changes which parents make to accommodate the children's communicative ability. Lipscomb and Coon (1983) reported in their study of fathers' and mothers' speech to girls 19 to 29 months and 32 to 43 months that both fathers and mothers adjusted aspects of

their speech. Utterances tended to be shorter, vocabulary less diversified and nouns used were more concrete with the younger children. McLaughlin, White and Raskin (1983) analyzed parents speech to girls and boys at 18 months and 32 months. They found that fathers and mothers did modify their speech for the younger and the older children but mothers were more adept in this modification than fathers. Rondal (1980) reported that the speech mothers and fathers used with their children changed with the child's developing linguistic competence. Once again nonverbal and directional information was not considered. Dyadic interactions in the triad were therefore examined to determine whether the inclusion of nonverbal interactions and directional information would result in different findings.

Dyadic turns represent the majority of turns taken in all of the triads. Two different proportional measures were developed for initiating and responding behaviors. The first measure represented the number of turns taken by a member of the triad divided by the total number of dyadic turns for the triad. This measure indicated the individual's relative directed participation within the triad. Comparisons could then be made among the participants' directed initiations and responses. The second measure was more reflective of individual style and it consisted of taking the number of turns in question for an individual and dividing it by the total number of dyadic turns taken by that individual in the direction under consideration. In other words, the proportion of initiation turns the mother directed at the child was divided by the total number of dyadic turns the mother directed at the child.

A word is required at this point about the classification of initiating and responding behaviors. As mentioned in Chapter 7, the transcripts were coded to identify interaction functions. Identifying initiating and responding

behavior was fairly straight forward but determining whether or not a turn was a response with the possibility for a follow-up initiation or R/(I) turn was much more difficult to determine. With the parents of the younger children, responses tended to have a very open ended encouraging feel to them. It was therefore decided to count R/(I) responses as straight responses. Continuations were not included because they occurred fairly rarely and the context changed from 12 months to 36 months. At 12 months, only adjacent turns could be recognized as continuations but at 36 months they could be more distant turns. Continuations were excluded for the purposes of this section.

All possible dyadic interactions were compared under four conditions:

- a) initiating and responding behavior between any two triad members as a portion of the total dyadic turns in the interaction;
- b) initiating and responding style for each individual as a portion of the number of turns directed at the member of the triad in question;
- c) verbal and nonverbal components of initiating behavior for each member of the triad as a portion of the number of turns directed at the individual under consideration;
- d) verbal and nonverbal components of responding behavior for each member of the triad as a portion of the number of turns directed at the individual under consideration.

9.2. Parents' Interactions with Their Children

The mean proportion of initiating turns taken by both as a function of the total number of turns taken did not vary greatly across the three age ranges. The mean proportion of initiations for mothers at 12, 24 and 36 months was .15,

.15 and .13. The mean proportion of fathers' initiations accounted for .08, .10 and .13 of the total turns taken.

The mean proportion of parental responsive behaviors varied less for the parents across the three ages. The mean proportion of mother's responses to the child were .12, .11 and .10. Fathers mean proportion of response turns to the child were slightly lower at .06, .07 and .08.

Considering the developmental changes that occur between the first and the third birthday, the proportions of initiating and responding behavior on the part of parents varied very little. Since it is recognized that parents make significant adjustments for the linguistic competence of their children (Lipscomb & Coon, 1983; Rondal, 1985), parents must be adjusting their initiating and responding behaviors in some other way.

9.2.1 Parents' dyadic initiating style with their 12, 24 and 36 month old children

Parental child directed initiations were examined to determine the communicative style used. The mean proportions of mothers' and fathers' verbal, verbal/action and action turns were computed and the results are illustrated in Figure 9.2.1.1.

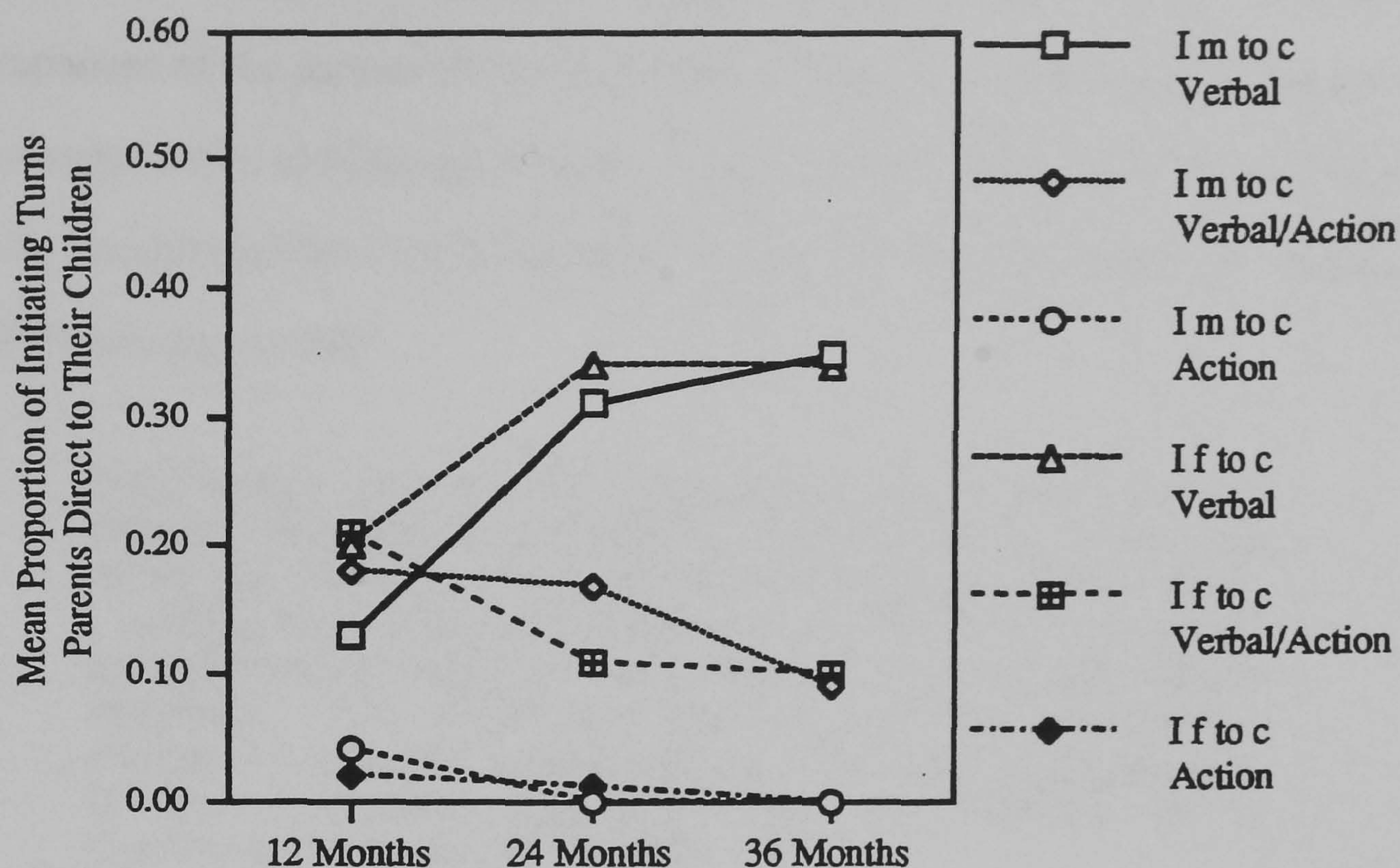


Figure 9.2.1.1 The mean proportion of verbal, verbal/action and action initiation turns as a proportion of the number of turns each parent directed at the child at 12, 24 and 36 months.

Mothers used more verbal/action than verbal turns in four and fathers in three of the 12 month old triads. At 24 and 36 months all parents used more verbal than verbal/action turns with their children. Parental action turns occurred rarely at 12 months and were almost non-existent at 24 and 36 months. The biggest difference in the mean proportion of initiating behaviors occurred between 12 and 24 months when the use of verbal turns increased dramatically. There was very little change in parental initiating style between 24 and 36 months.

It would appear that mothers and fathers make similar adjustments at 12 and 24 months to their behavioral style when initiating verbal, verbal/action and action turns with their children. Verbal/action turns are an important component of the parents' interactive repertoire at 12 months but they become less important as children grow older. These interactions need to be examined in the context of the child's physical as well as linguistic abilities. Locke (1995) has argued that:

Helplessness and maternal attachment - foster sustained and intimate interactions that permit development of vocal and referential learning as required by the construction of a lexicon. . . Attachment critically depends on the ability of caregivers and receivers to recognize each other and interpret each other's emotions. The voice and face are routinely and almost exclusively used for these purposes. The infant's helplessness is thus indirectly responsible for the creation of a communication channel. (p. 287)

Parental initiations at 12 months often take the form of offering the child food and assisting the child with eating. In this case, helplessness creates a situation requiring the parents assistance and most of the actions taken by the parents are accompanied by speech closely related to the action. This has the effect of drawing or holding the child's attention to the actions described thus creating the potential for a state of joint attention.

By 24 and 36 months, children are more capable both motorically and linguistically therefore the need for parental assistance with feeding is reduced which also decreases the need for verbal/action turns. In fact, all of the triads exhibited more verbal than verbal/action initiating turns for mothers and fathers at 24 and 36 months.

Kennedy (1991) argues that:

language is not an object, or even a skill, that lies outside the child and has to be somehow acquired or internalized. Rather it is a mode of action into which the child grows because the mode is implicit in the human developmental system. (p.10)

Beyond 24 months, children's linguistic competence continues to develop and there is not the same need for the establishment of joint attention for the interaction to be successful. The concurrent development of motor skills means that the child can eat independently so the need for the parent to engage in the act of feeding the child decreases.

9.2.2 Parents' dyadic responding style with their 12, 24 and 36 month old children

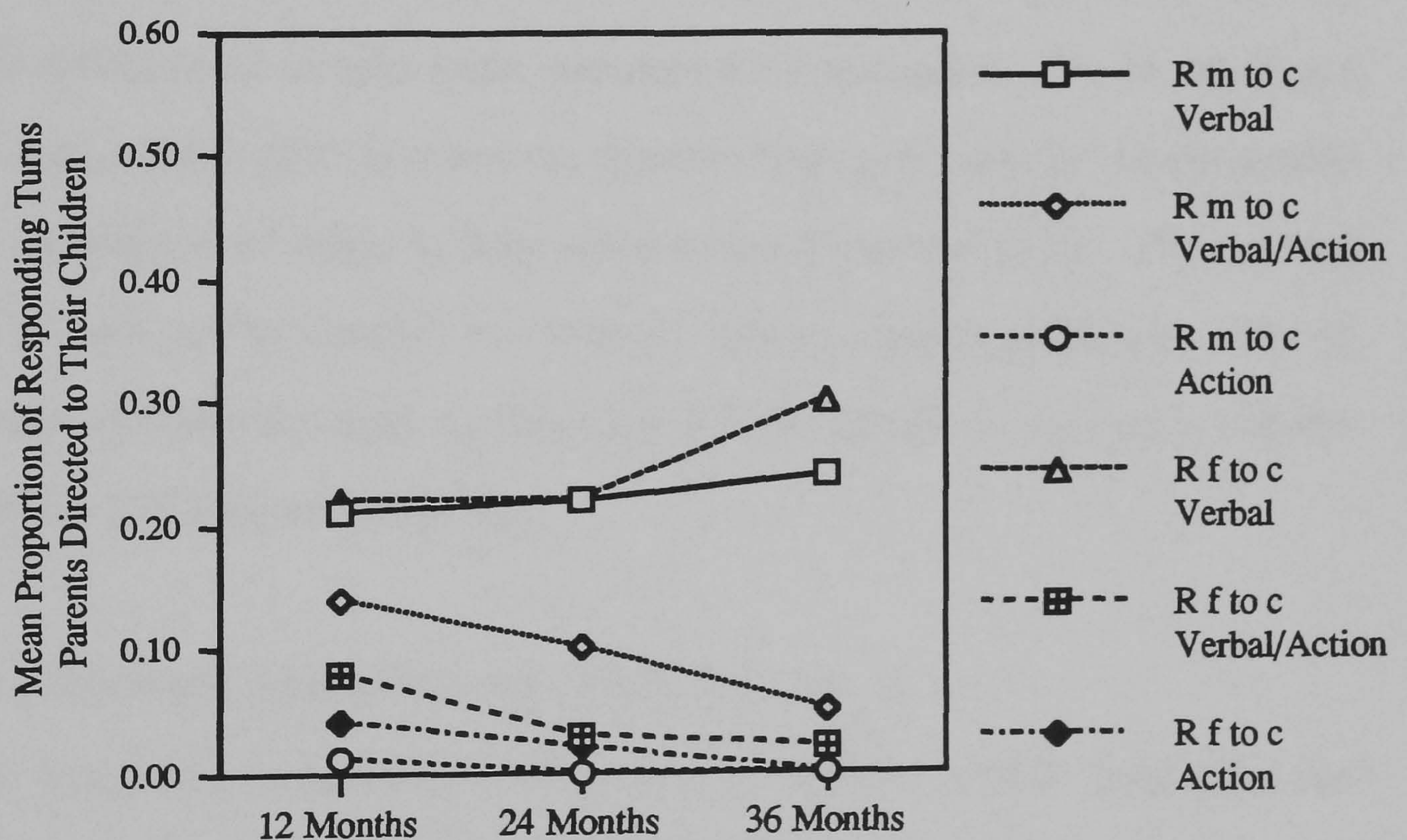


Figure 9.2.2.1 The mean proportion of verbal, verbal/action and action response turns as a proportion of the number of turns each parent directed at the child at 12, 24 and 36 months.

The pattern for mean proportion of parental response turns across the three ages is quite different from parental initiation turns. With the exception of two mothers at 12 months, both mothers and fathers used more verbal than verbal/action turns at all three ages. This finding is not surprising when the nature of responses is considered. RUIs were discussed in Chapter 8. By definition, RUIs take the form of comments that parents use to react to some behavior of the child that carries very little communicative intent. At 12 months, parents willingly comment on their child's actions and incorporate them into the interaction. There was no need to accompany the comment with an action unless the RUI was a control RUI and control RUIs arose rarely at 12 months. This helps explain why verbal responses are as common as they are at 12 months. Parents make considerable use of comment RUIs to attach meaning to their child's actions. At 24 months, the proportion of control RUIs was similar to 12 months while comment RUIs decreased. The 24 month old children want to pour juice and cut food for themselves and parents are placed in the position of trying to help without interfering too much. Thus control RUIs such as "be careful" or "slowly" take on more significance. By 36 months children are more capable both motorically and linguistically and the need for RUIs almost disappears.

9.3. Children's Interactions with Their Parents

The interactive behaviors children use with their parents change as the children become more sophisticated in their communication and more competent in their motor skills. Initiations at 12 months often take the form of reaching for objects, pointing, or looking at the parent. By 24 months most children have discovered the power of communicating through the use of speech, they have a functional vocabulary and are able to express most of their immediate needs verbally. By 36 months, children are beginning to be able to

participate in a conversation. How is this change in ability reflected in interactive functions such as initiating and responding behavior?

When children's initiating and responding behaviors were considered as a proportion of the total number of dyadic interactions in the triad, at all three ages the mean proportion of children's initiations was slightly less than the mean proportion of response turns to their mothers.

The mean proportion of response turns increased and the mean proportion of initiation turns decreased with age. There was only one triad at 12 months and one at 24 months where the proportion of initiating turns was greater than the proportion of response turns directed by the child at the mother. Both of these triads had format-like activity occurring in them. In the triad with the 12 month old child, the mother and child engaged in a game of repeated alternating vocalizations. In the triad with the 24 month old child, the parents and child engaged in the game of "cheers". The appearance of these formats allowed the children in these two triads to use more initiations.

The picture is less clear with the child's interactive behavior with fathers. The mean proportion of initiating turns is slightly greater than the mean proportion of responding turns at 12 months. By 24 months, the mean proportion of responding turns is greater than initiating turns. The mean proportion of responding turns continues to increase while the mean proportion of initiating turns decreases beyond 24 months. All child to mother and child to father turns showed a greater proportion of response turns over initiation turns at 36 months.

9.3.1 Twelve, 24 and 36 month old children's dyadic initiating style with their parents

Action turns are an important form of initiation for the 12 month old child. The importance of action turns decreases with age with the greatest decrease occurring between 12 and 24 months. The child's verbal initiating behavior increases between 12 and 24 months. By 24 months, initiating behavior is fairly evenly spread among all three turn types and by 36 months, action turns are rarely seen.

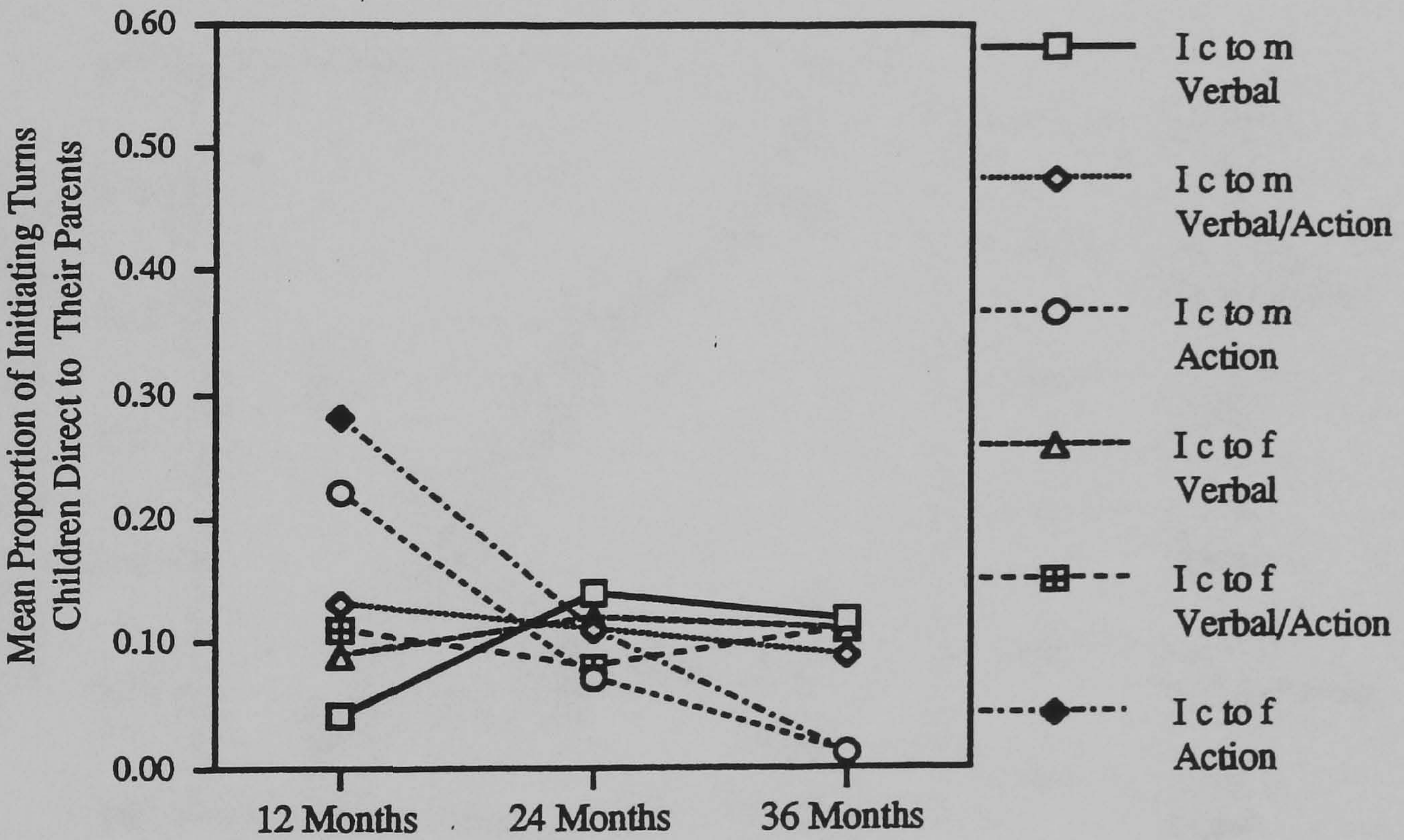


Figure 9.3.1.1 The mean proportion of verbal, verbal/action and action initiation turns as a proportion of the number of turns the child directed to each parent at 12, 24 and 36 months.

9.3.2 Twelve, 24 and 36 month old children's dyadic responding style with their parents

Differences in responding style were much more pronounced than for initiating style. Actions represent most of the 12 month old children's response turns to both mothers and fathers. A large shift occurs between 12 and 24 months where action turns fall and verbal turns rise dramatically. Verbal response turns continue to increase between 24 and 36 months while action turns continue to drop. Over half of the children's interactions with their parents consist of verbal response turns by 36 months.

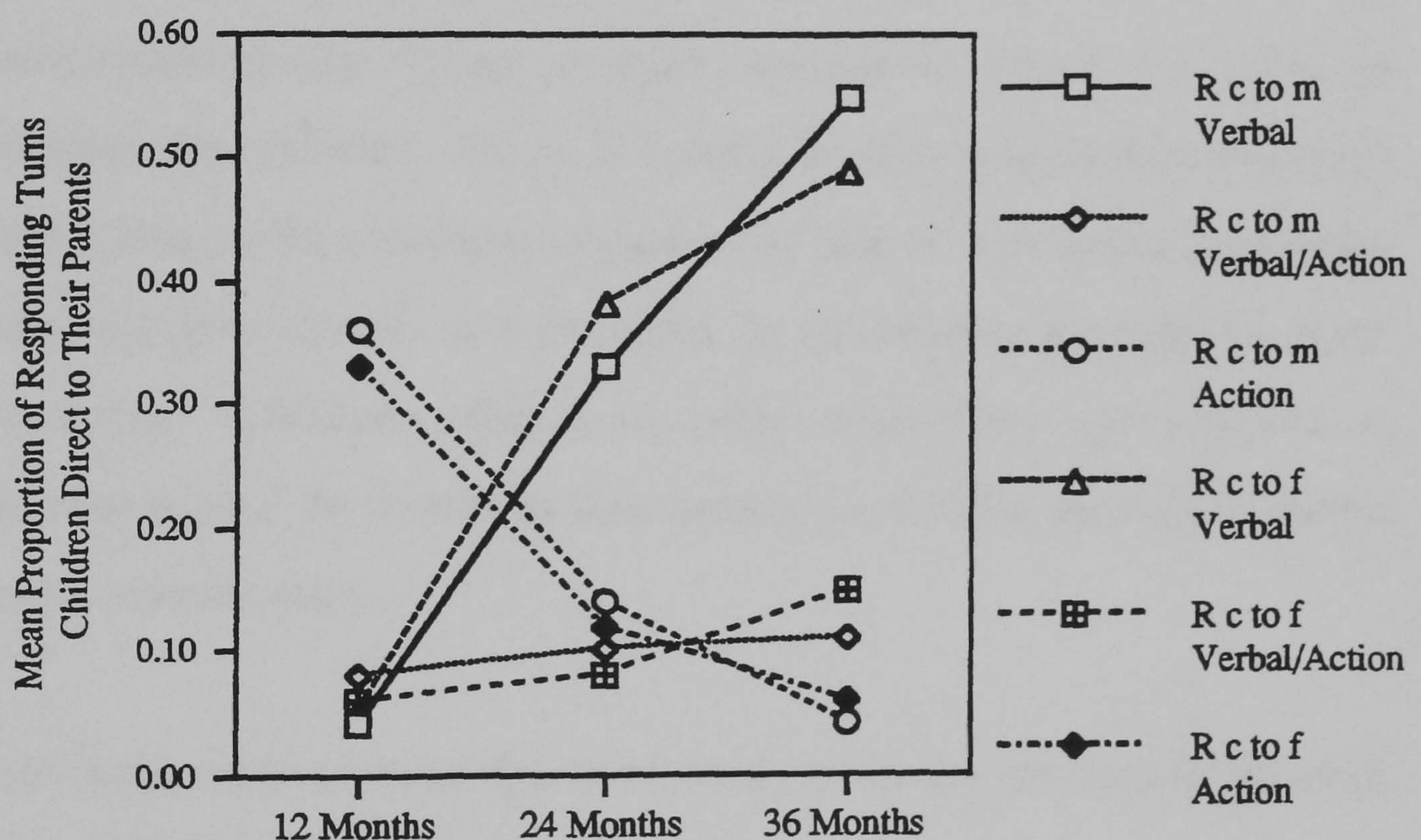


Figure 9.3.2.1 The mean proportion of verbal, verbal/action and action response turns children addressed to their parents at 12, 24 and 36 months.

It must be remembered that by definition response turns require a degree of contingency. Rutter and Durkin (1987) reported that mothers of 12 month old children fit their vocal behavior around the vocal behavior of their children

thus giving the appearance of a smooth coordination to the interaction. By 24 months, however, children are beginning to take an active part in maintaining the coordination of the interaction. When considered in light of the types of interactive behaviors required to accomplish this coordination, it seems reasonable that response behaviors undergo the greatest change as children become more competent communicators and are able to provide verbally contingent responses.

According to Locke (1995), it is between 20 and 30 months that children begin to process language more analytically. Earlier experiences have bathed the infant in warm social interactive experiences where parents are accommodating and willing to attach meaning to almost any action or initiation from the child. But by 24 months the child is combining words and contributing to the interaction so parents are able to shift tactics and request responses from children as a technique for encouraging participation in the interaction. Children's reliance on verbal responding turns continues to increase beyond 24 months as they proceed to develop more sophisticated communication skills.

9.4 Comparisons between dyadic turns of the parent directed at the child and child directed at each parent

Perhaps the best way to illustrate the changes that initiating and responding behavior undergo is through examples. Example 9.1 typifies the interactions that occur with 12 month old children and Example 9.2 is more representative of the interactions that occur at 24 months.

No	Type	Function	Direction	Turn
99	act	I	m to c	/offers c milk/
100	act	R	c to m	/takes a drink of milk/
101	ver/act	I	m to c	we'll try a little more cottage cheese /offers c spoonful/
102	act	R	c to m	/accepts spoonful/
103	ver	R	m to c	oh that's good
104	act	I	c	/reaches for dish/
105	ver/act	R	m to c	no no no no no /pushes hand away/
106	ver	I	c to m	oh /and reaches for milk/
107	ver	R	m to c	milk again
108	act	I	c to m	/takes a drink of milk/
109	ver	R	m to c	good boy
110	act	I	c to f	/looks to f/
111	ver	R	f to c	Nooshie

Subject 5-12

Example 9. 1

It is clear from this interaction that parents are willing to follow the actions of the child. They initiate turns by offering the child food and then follow the child's response with a further response by reacting, usually verbally, to the actions they precipitated. Child initiations on the other hand often involved the child reaching for something. In this case, the child's actions are treated as request initiations by the parents. Parents, in this way, are able to act contingently upon the child's action request initiations and accept the child's responses to their initiations as contingent responses. It does not really matter

whether the child accepts or rejects the parents offer, the response is still contingent.

No	Type	Direction	Function	Turn
70	ver	m to c	I	well, you are doing really well aren't you ... eating your soup
71	ver	c to m	R	thank you mummy
72	ver	m to c	R	thank you you're welcome
73	ver	c to m	I	thank you
74	ver	m to c	R/I	you're welcome ... are you going to eat it like that
75	ver	c to m	R	yeah
76	ver	m to c	I	okay you want to eat it like a sandwich this way can you do that
77	act	c to m	R	/stuffs it into her mouth/
78	ver	m to c	I	oh look at you
79	ver	f to m shift c	I	good thing there's...we didn't starve you all week for nothing now did we
80	ver/act	m to c	I	do you want me to move this/reaches for a container/
81	ver	c to m	R	yeah

Subject 11-24

Example 9.2

At 24 months the interaction is marked by a substantial increase in the proportion of the parent's verbal initiations and child's verbal responses.

Conversely, the proportion of child's action initiations decrease. This child is much more independent with respect to feeding herself than the 12 month old child in Example 9.1. As a result, offering food does not play the same role in the interaction. Parents are able to offer verbal turns that are still comments on the child's actions but their comments take the form of initiations rather than responses. Parental verbal initiations frequently provide an opening for a verbal response from the child. Rather than providing an action with a verbal accompaniment parents are more likely to ask if the child would like the parent to carry out an action. Sometimes the object is indicated by movement of the hand toward it. Parental request initiations often take the form of two-choice questions. Yes/no questions can often be viewed as the linguistic equivalent of offering a spoonful of food which parents do at 12 months. The child is again given the option of accepting or rejecting the overture.

The child is beginning to be able to respond more effectively to parents' initiatives. These responses are not merely actions that are sandwiched into the interaction; they are responses which are contingent upon the previous initiation of the parent and this is what is reflected in the increase in the proportion of response turns.

There are two other notable changes that occur between 24 and 36 months. The mean proportion of children's and the fathers' response turns increase reflecting the increase in the child's linguistic and motoric ability. By 36 months, the interaction is less dependent upon the activity of eating. Children are now very capable of feeding themselves and their linguistic ability has developed to the point where they are able to play a more mature role within the triad. Because the interaction is less context bound to the activity of

eating, fathers are able to join the interaction and respond to comments made by mothers and children.

At 12 months parents are sensitive to many of the behaviors children exhibit (Lipscomb and Coon, 1983) and in the triad they are willing to take those behaviors and respond to them. By 24 months children are beginning to use more speech and parents expectations increase (Bates, 1979). This often takes the form of parents asking questions and the child responding (Snow, 1972) and by two years of age children are often able to respond either through action turns or through the use of words. Cross, Morris and Neihuys (1980) demonstrated that maternal child directed speech is influenced by the linguistic production of the child. It appears that a similar process occurs within the triad. As children move from mere vocalizations usually used to attract attention to the combination of words, parental expectations are also changing. Parents move from responding contingently to their children's behaviors to requesting information from the child to encourage participation at a more mature level within the interaction. It appears that both parents make similar accommodations in this respect.

9.5 Parental exchanges

In Chapter 6, it was noted that there tended to be a higher proportion of exchanges between parents at 12 months than at 24 or 36 months. Examples were presented in Chapter 7 that illustrated parents talking to one another as a way of establishing and maintaining joint reference with the child. These exchanges between parents also provide an opportunity for children to overhear adults taking turns and discussing something carrying contextual reference for the child. Overhearing or conversational monitoring in a triadic situation has been identified as having possible linguistic significance for the

young child. Forrester (1993) filmed five mother-infant-sibling triads over a six month period. At the beginning of the study the infants were approximately 11 months old and their siblings were about four years old. The development of the infants' ability to shift attention to the mother when she referred to the infant by name to the older sibling was tracked. Infants did not turn toward the mother when she used their name until they were about 14 months of age. This early form of conversational monitoring has a sudden rather than a gradual onset.

It was thought that parental exchanges in the mother-father-child triad may provide some social experience for the child with respect to conversational monitoring. One would expect that at 12 months many of the parental exchanges would be related to the focus of the child. By 24 months, parental turns should change and be more independent of the focus and the actions of the child. Parents in this context may be providing the child with the early experience necessary to recognize the possible implication for the child of speech occurring between others.

Mother to father and father to mother turns were reviewed on video tape and classified as either related or independent. They were considered to be related if they referred to aspects of the child's focus of attention and independent if they dealt with an unrelated topic. Figure 9.5.1 illustrates parents' use of related and independent turns.

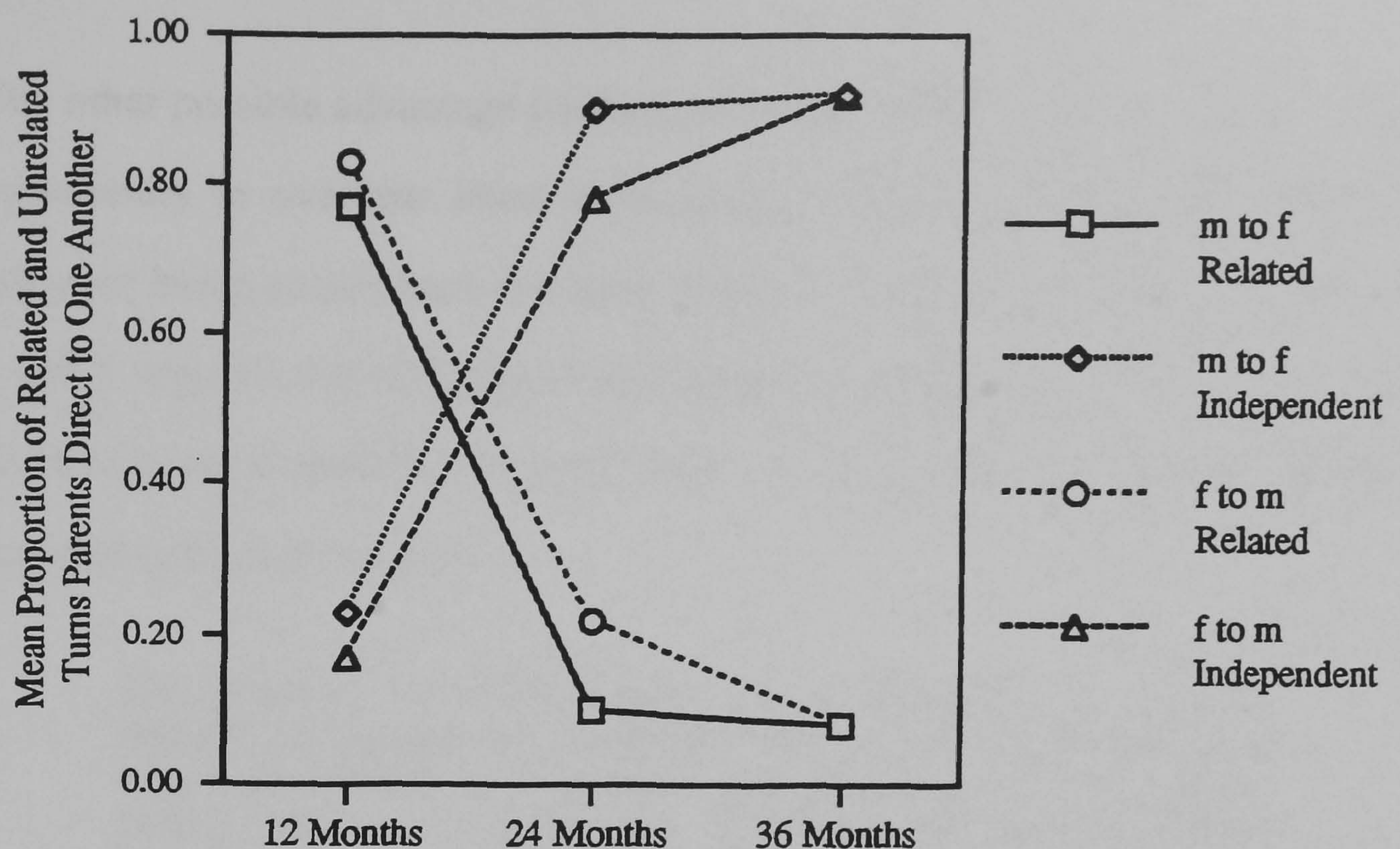


Figure 9.5.1 The mean proportion of related and independent turns mothers and fathers addressed to one another at 12, 24 and 36 months.

At 12 months parents make extensive use of comments related to the current focus of the child. Parents in all of the 12 month old triads used more related than independent parental exchanges. Conversely, parents at 24 and 36 months used very few related exchanges and a corresponding increase in the mean proportion of independent parental exchanges was present.

There are several possible explanations for this shift in interactive behavior. The 12 month old child demonstrates little behavior carrying communicative intent. A running commentary keeps both parents involved in the interaction and creates a form of joint attention as the child overhears the parents discussing the child's actions. The 24 month old child tends to be much more

a part of the interaction and therefore there is not the same need to keep the interaction going through conversations between the parents.

The other possible advantage parental exchanges afford the young child is the opportunity to overhear interactions closely related to the child's focus of attention being passed back and forth smoothly between the parents. Forrester (1993) suggests that this type of overhearing may be important for the young child because it provides the child with the chance see the way two people participate in an interaction.

The point to be emphasized here is that learning how to indicate and display the recognition of communicative intention may be facilitated by first observing, as a non-participant, how people interact with each other. There may well be a close link then between detecting patterns in the structure of such social interaction, and the acquisition of the skills necessary for participating as successful listeners (Forrester 1993, p. 57).

In addition, there is a fairly striking difference in the prosody of these two types of parental exchanges. Most of the related exchanges have characteristics of child directed speech including slightly elevated pitch with wider pitch excursions. Independent exchanges on the other hand tend to be more characteristic of adult to adult speech. Exchanges were often softer and sometimes even had an almost cryptic quality to them as illustrated in the following example.

No	Type	Direction	Function	Turn
100	ver	m to c	R/I	lucky you didn't eat breakfast isn't it
101	ver	f to m	I	is that what the plan was
102	ver/gest	m to f	R	no its just the way it worked out /shakes head/

Example 9.3

Subject 10-24

These turns are carried on over the top of the child's head. The parents are speaking very softly and there is very little animation in the exchange. Further, the exchange contains no direct reference to the fact that they are talking about breakfast and it is very unlikely that this child has any notion of what his parents are discussing. Forrester (1993) makes a distinction between overhearing as a participant and overhearing as a non-participant and he suggests that the child learning to determine whether or not a speaker intends to communicate to him or her is a necessary component for learning conversational implicature. It is possible that in the mother-father-child triad related and independent parental exchanges provide the child with experience that is useful in the development of this conversational skill.

When parents carry on this running commentary with the 12 month old there is no clear indication of understanding from the child. It is possible that these exchanges do not carry all of the communicative components necessary to attract or hold the young child's attention. If the developmentally significant aspects of spoken language, at this age, are as Locke (1995) suggests, "written on the faces, voices, and gestures of those who talk" (p. 280) then it makes

sense to consider social interaction in the form of language in this context as a display. This may help explain why 12 month old children do not join in the interaction occurring between parents. It is possible that some change in the display pattern results in the interaction lacking the pertinent behavior required to elicit a response from the infant. Parental exchanges may be nothing more than a musical accompaniment to the child's actions.

9.6 Double Dyadic Turns

The double dyadic turn of interest here is the one that usually takes the form of an initiation and is generated by the child. It could be addressed to either of the parents and in fact it is sometimes characterized by its ambiguity of direction. It is as if the child has thrown the turn out for one or the other of the parents to catch and then act upon. It is illustrated in the following example.

No	Direction	Function	Turn
200	f to c	R	here let me help you there you go /hands pear to c/
201	c to m&f	I	da da da da/picks up pear/
202	m to c	R	okay that's a boy

Subject 5-12

Example 9.3

One of the reasons that it is difficult to ascribe a clear direction to this turn is that the child is looking at the pear and the vocalization does not carry enough information to indicate whether it is intended for the mother or the father. The fact that there is a vocalization accompanying the action suggests that there is some intent attached to the turn but because the child does not shift his gaze to

one parent or the other the direction of the turn is ambiguous. As it turns out it is the mother who picks up on the turn and responds.

The double dyadic turns taken by many of the 12 month old children described here were not marked by gaze or inflection. They were merely vocal markers that served the purpose of drawing the parents attention to the child. Howe (1981) would probably classify them as soliloquies but in the triad they seemed to have a more interactive function because when parents failed to acknowledge these turns the child would often repeat the vocalization, further encouraging a reaction from the parent. The fact that parents usually then responded provides additional evidence supporting an interactive component in the behavior. Children first become capable of identifying what they want and then develop the skills to identify the individual from whom they wish to receive it (Bates, 1979). As children develop skills such as naming the addressee, marking the utterance with inflection and using gaze appropriately to mark the turn, they become more capable of clearly defining who they are addressing (Howe 1981) without the use of action.

Children's double dyadic turns were examined and described as either ambiguous or defined. Ambiguous turns consisted of those double dyadic turns where it was impossible to tell who was being addressed and defined turns clearly demonstrated that both parents were included. Figure 9.6.1 illustrates the change over time in defined and ambiguous double dyadic turns.

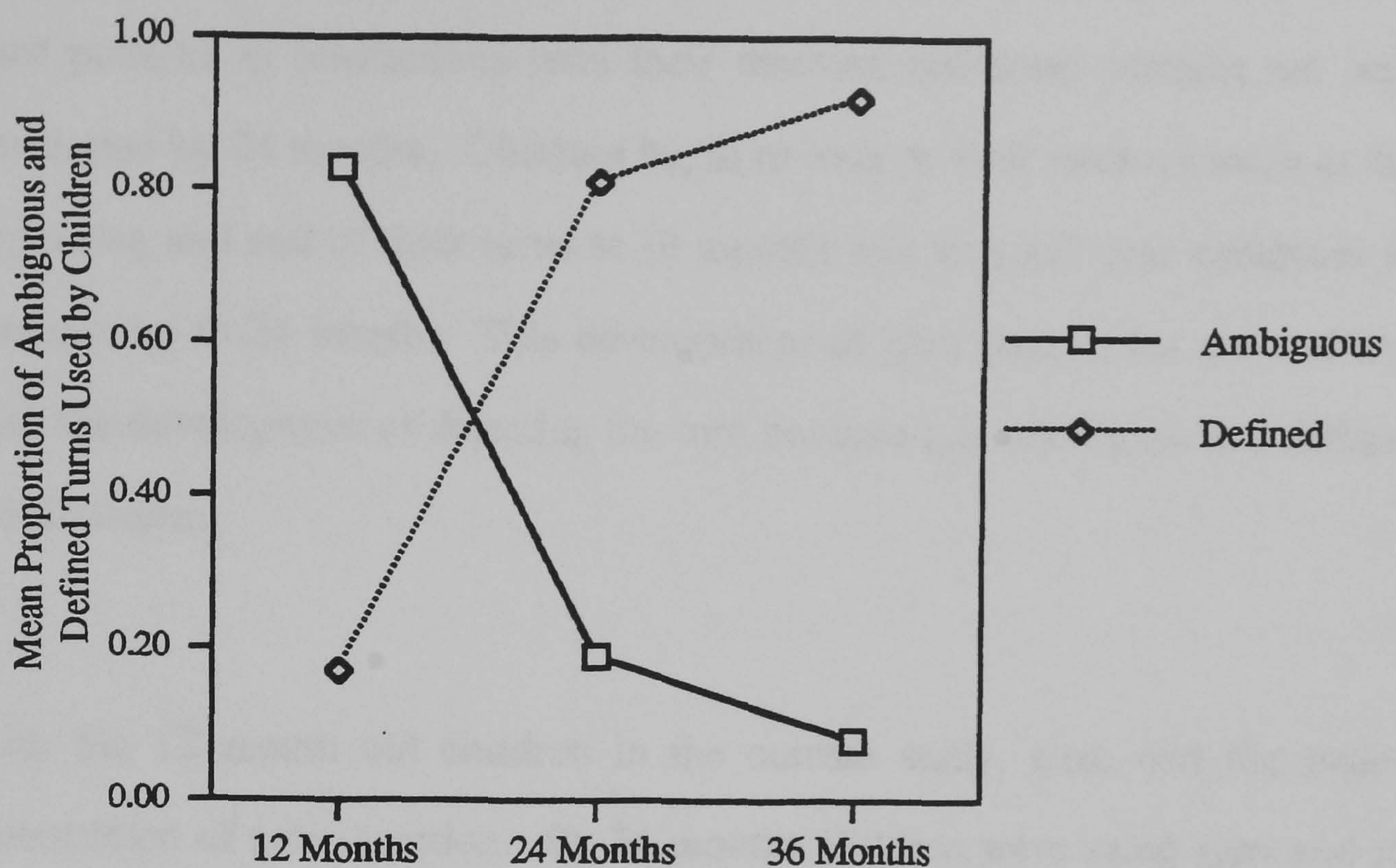


Figure 9.6.1 The mean proportion of children's ambiguous and defined double dyadic turns at 12, 24 and 36 months.

The mean proportion of defined double dyadic turns increases from 12 to 24 to 36 months as the mean proportion of ambiguous double dyadic turns decreases. This most likely reflects the child becoming more skillful in directing the turn.

Locke (1996) contends that:

infants talk whether they intend to communicate or not and they do not necessarily direct their talk to others in a social situation. (p.126)

At 12 months children tend to use vocalizations or actions that are not particularly addressed at either parent and it is the parent who attaches meaning and direction to the turn. Children's vocalizations often serve the

purpose of drawing the parents' attention. Rutter and Durkin (1987) have demonstrated that by 18 months young children are beginning to adopt adult gaze patterns in interactions with their mothers and these patterns are well developed by 24 months. Children begin to look to their mothers more at the beginning and end of their turns at 18 months and terminal gaze continues to increase up to 24 months. This development of gaze pattern fits quite nicely with the development of directing the turn because it is often gaze that defines the direction.

With the 12 month old children in the current study, gaze was the major determinant of turn direction. By 24 months children were using gaze and to some extent verbal references to define the intended direction of the turn. This behavior was more refined at 36 months. As a result, children became more skilled at identifying which parent they were addressing and ambiguous double dyadic turns decreased and the double dyadic turns that remained were intended for both parents.

9.7 Summary

In this chapter the direction initiating and responding turns take in the triad was examined and the behaviors that constitute the turns were analyzed. The proportion of parental initiation and response turns did not appear to vary across the three age groups and it was therefore concluded that parents adjust their initiating and responding behaviors to accommodate the developing communicative competence of the child. Parental initiating and responding behavior was therefore examined to determine the interactive style employed.

Twelve month old children were quite dependent upon the parents for food preparation and presentation so that initiations often took the form of offering

and assisting. These actions helped focus the child's attention and as parents usually accompanied their actions with related speech the potential for a state of joint reference was created. At 24 months and beyond, the children were motorically and linguistically more competent and did not require the same degree of assistance with feeding. Parents were able to rely more on verbal initiations.

Parental responding behaviors showed a very different pattern. Verbal behavior accounted for the largest proportion of response turns for both fathers and mothers at all three ages. With the exception of maternal verbal/action response turns at 12 months all other turn types occurred infrequently for both mothers and fathers. At 12 months parents willingly incorporated their child's actions into the interaction and responded as if they carried communicative intent. Mothers used a considerable proportion of verbal/action responses at 12 months because they fed the child and often an action accompanied by speech was required to cope with the feeding activity. It would appear that mothers and father make very similar accommodations in terms of the type of interactive behaviors they used to interact with their 12, 24 and 36 month old children.

The goal directedness of the child at the end of the first year combines with the relative helplessness of the child to require the child to seek assistance from a parent. Actions on the part of the child highlight the focus of the child's attention thus assisting both parents with the coordination of their interactions with the child. Helpless and attachment increase the redundancy within the interactive system. Helplessness on the part of the child ensures parental use of actions that capture and focus the child's attention. The need to

maintain a close social relationship with the child encourages parental use of speech.

The child's initiating and responding behavior was quite different from the parents' at 12 and 24 months. The mean proportion of response turns increased and of initiation turns decreased for children as they got older. Action turns comprised the majority of initiating turns for the 12 month old child. By 24 months initiation turns were fairly evenly distributed among all three behavior types. Thirty six months was characterized by a decrease in action initiation turns.

The child's responding style also showed considerably more differentiation among the three age groups. Verbal/action response turns showed a slight increase between 24 and 36 months while action turns decreased quite dramatically from 12 to 36 months. Action turns represented the most common form of responding turns at 12 months. By 24 months action turns were replaced with verbal turns and verbal turns increased again at 36 months.

Interactions occurring between the parents suggest that parents of 12 month old children use many of their interactions with one another to discuss the child's ongoing activity. Parental exchanges were classified as related or independent of the activity or focus of the child. The majority related to the activity of the child at 12 months. By 24 months the majority of parental exchanges were independent of the child's activity. It was suggested that at 12 months, parent to parent turns resulted from their awareness of the child's actions. Through this process they were able to create a state of joint attention

and provide opportunities for the child to overhear parental interaction related to the current interest of the child.

Children's double dyadic turns were also examined in this chapter. These turns were classified as either defined or ambiguous. Defined turns were turns that were clearly directed to both parents. The majority of child's double dyadic turns at 12 months were ambiguous in nature but by 24 months they were defined and this relationship remained constant at 36 months suggesting that between 12 and 24 months children become more adept at specifying the direction of the turn.

Chapter 10

Conclusions and Recommendations

10.1 Introduction

This work provides the "botany" of triadic interactions and, as previously mentioned, is descriptive in nature. Numeric descriptions are used to indicate possible trends rather than define significant differences. It attempts to define a framework for the analysis of a triad. This framework has been applied to a limited number of triads with a limited number of longitudinal subjects. As such the trends that have been observed cannot confidently be claimed to apply to a larger population. This study describes the changes that occur in the developing child's ability to communicate within the triad and the accommodations that parents make to ensure successful communication over a period of time when the child's communicative intentionality is just beginning to emerge through to early stages of conversational usage. All participants in this study were members of a particular ethnic and socio-economic group which normally regard mealtimes as an opportunity for social interaction. In this chapter a brief description of the work will be presented. The major issues will be discussed, conclusions drawn and recommendations for future work presented.

10.2 The setting, the situation, the subjects and coding the triadic interaction

The selection of the activity of eating a meal proved to be an appropriate setting for a triadic interaction involving mother, father and a small child. It had the advantage of restricting the range of movement of the child and also providing a situation familiar to the child and the parents. The setting proved to be appropriate for children at one year of age and children at three years of age. Ample opportunities for the child and parents to join in the interaction were available. Because it was an activity that required some management and was goal directed the family quickly become engaged in the activity. The lunch setting allowed many opportunities for parents to become involved in object manipulation activities with their children. It also created a situation where children were able to accept or reject offers made by their parents.

Three groups of six children aged 12, 24 and 36 months were video taped while eating lunch with their parents. A longitudinal sample of three families was also video taped with their children at 12, 24 and 36 months to provide some indication of individual differences.

Verbatim transcriptions of each interaction were recorded using a layering technique in a computer data base. Initially a gloss was completed then the verbal turns for each member of the triad were recorded. The tapes were viewed again and all of the nonverbal behavior that carried intent or had intent attached to it was entered into the data base. During further viewings, direction of the turns were coded and finally interactive function was defined.

It was thought important to establish that all of the children in the study had normal hearing at the time of video taping given the high incidence of

conductive hearing loss for this age group. Two children were excluded from this study because of their history of otitis media and the fact that they had a hearing loss at the time of video taping. The video taping for one child was delayed one week until the child's hearing returned to normal. The fact that more than one tenth of the children in this entire sample and close to one quarter of the 12 month old sample demonstrated a conductive hearing loss at the time the video taping suggests that this is a variable which needs to be taken into consideration in any study of early language development.

10.3 Behaviors that defined participation in the triad

It was immediately apparent upon viewing the tapes that nonverbal behavior (coded in the present study as actions) was an integral component of the 12 month olds communicative repertoire. In many cases the child's action turns were important in maintaining the structure of the interaction. Another advantage of video taping the interaction was that verbal and verbal/action turns could be differentiated.

In Chapter 3 several interactive episodes with 12 month old children were presented to illustrate how the interactions were coded. These were then discussed in terms of their developmental significance and provided additional insight into the management of joint reference within the triad. It was noted that the mother - father - child triadic context may be more challenging for the young child because the child has to cope with adult directed as well as child directed speech. The child's behavior was often goal directed. Social interactions took the form of giving and taking and parents used predictable, social and relevant language to accompany the actions.

10.4 Defining the direction of the turn

In Chapter 4 turn directions were grouped into five classifications. These were described as no direction, monadic, dyadic, double dyadic and triadic. No direction action turns used by the 12 month old child were used by the parents as conversational topics. The presence of no response turns where the child failed to direct attention to a parent requesting it demonstrated that even at 12 months children were selective in responding.

Monadic turns involved a member of the triad addressing a comment to him or herself. They occurred rarely but they illustrate the potential for an individual to withdraw from the interaction, an option rarely available in the dyad.

Dyadic turns were the most common turns to occur in all of the interactions. They involved one member of the triad addressing another member of the triad or passing objects back and forth. In this way actions often helped define the direction of the turn for the younger children.

Two types of double dyadic interactions were observed. One involved two members of the triad joining forces taking a single turn and addressing it at the third member of the triad. It was usually the parents who took this type of turn and addressed it to the child to exert pressure or extol praise.

The second type involved one member of the triad addressing the other two. Sometimes it was clear that the other two members were being addressed. At other times the turns appeared to be thrown out for either of the other two to catch. This occurred more frequently with the youngest age group. It was suggested that these ambiguous double dyadic turns reflect the child's immaturity in defining the direction of the turn.

Triadic turns were rare. They took a variety of forms. One of the most interesting involved a parent addressing a turn to the child with one message for the child and another message for the other parent. These turns were often used to share a joke with the other parent. It was argued that parents use these turns particularly with the youngest age group because these children are responding to the social content in the interaction which is carried through visual information available on the face and the prosodic information of the voice while the other parent is responding to the semantic and syntactic information conveyed by the words.

Parents occasionally took turns for their children. This provided the child with an opportunity to observe an appropriate response modeled by the parent. Another form of triadic turn consisted of a shift in direction of the turn. This form was observed to be taken even by 12 month old children. It occurred when the child would turn away from one parent to the other parent as a form of avoidance. Attraction and aversion may play a role in assisting the child develop the ability to attribute direction to the turn. The final form usually appeared at the end of a game or format. In this case, all of the members of the triad came together in a joint or unison turn.

10.5 Participation in the triad

When nonverbal behavior was included 12, 24 and 36 month old children were provided with approximately one third of the turn opportunities. A considerable degree of variation was noted in relative parental participation, which may reflect a style adopted by parents rather than changes in development of the

child's communicative competence. This difference in style was evident in the three triads that were examined longitudinally.

Participation measured by turns taken was then examined. Again, considerable variation existed but it did appear that most children at 36 months took more turns than the 12 or 24 month old children.

Verbal behavior was the major type of interactive behavior used by parents for all three age groups. Mothers relied on verbal and verbal/action turns with their 12 month old children while fathers relied more on verbal turns. Reliance on verbal turns increased for both mothers and fathers at 24 and 36 months. Children on the other hand used mostly action turns at 12 months and the importance of these behaviors decreased with age as an increase in the use of verbal behaviors occurred.

It is suggested that the changes in the use of verbal and action behaviors in the children may be reflective of the decontextualization occurring in the interaction as the children become more communicatively competent.

10.6 Analysis of the turn direction

The proportion of no direction turns decreased with an increase in age of the child while the proportion of dyadic turns increased. The proportion of double dyadic turns decreased between 12 and 24 months and then showed a slight increase at 36 months. This issue was examined in more detail in Chapter 9.

The proportion of mother to father and father to mother turns decreased with the age of the child. Conversely, the proportion of dyadic turns involving the child tended to increase with age. The increase in the proportion of child to parent dyadic turns probably reflects the child's developing ability to define the individual addressed. This issue was also examined in more detail in Chapter 9.

10.7 Interaction analysis of the triad

Next the interactive function for each turn was determined. Parents tended to take the youngest child's actions and treat them as initiations within the interaction. They also tended to discuss the child's actions between themselves thus providing the child with a chance to overhear a commentary on the action. It was suggested that this may be a technique parents use to establish a state of joint attention.

The role that formats played in providing a familiar, predictable interactive situation was also examined. An example was presented illustrating a 24 month old child controlling the interaction through the use of initiating gestures. She was able to maintain this "chairing role" for a total of 14 turns and involve both parents throughout this part of the interaction.

It was concluded that interaction in the triad at times presented different challenges for the participants and that the triad provides a richer context than the dyad for the development of pragmatic skills.

10.8 Analysis of no direction turns

Parents of 12 month old children often attributed meaning to the nonverbal behavior of the infant. These no directions action turns by the infant functioned

as unintentional initiations and parental reaction to this behavior was coded as a response to an unintentional initiation or RUI. It was argued that RUIs ensure that parents were talking about the current focus of attention of the child therefore establishing a state of joint reference. RUIs accounted for almost one third of the fathers' and one quarter of the mothers' turns directed at the child. Parents most likely use the spontaneously occurring actions of the child to help organize the interaction.

10.9 Dyadic turns and double dyadic turns

Mothers and fathers typically used more initiations than responses for all three age groups. Parents' initiating behaviors at 12 months were fairly evenly distributed between verbal and verbal/action turns. By 24 months parental verbal turns increased and verbal/action turns decreased and these changes continued through to 36 months.

The distribution of parental response behaviors was quite different from initiation behaviors. The mean proportion of verbal response turns remained quite consistent across the three age groups. Verbal/action turns decreased slightly across the three age groups. Parental initiation and response action turns rarely occurred.

Children's interactive patterns were quite different from parents interactive patterns. Action turns comprised the majority of initiating and responding behaviors for the 12 month old child. By 24 months, initiating behaviors were fairly evenly distributed among verbal, verbal/action and action turns while response turns tended to be verbal in nature. Initiation and response action turns had almost disappeared by 36 months but verbal/action turns remained

fairly constant across the three age groups and verbal response turns continued to increase.

As children become more self reliant, parents are able to initiate more at a verbal level. Parental expectations change and parents are able to take on more of an initiating role because they know the child is capable of responding. The need to treat each action of the child as if it carried communicative intent disappears because the child really does start to show intent as revealed by the increase in speech.

It was suggested in Chapter 7 that mothers and fathers sometimes talked to one another about what the child is doing. Parents of 12 month old children appeared to use their interactions with one another to discuss the current actions of the child. This establishes a potential state of joint reference with the three members of the triad. Parents of older children discussed topics independent of the child's focus of attention. Parents of the youngest group of children were focused on the actions of the child and therefore it is natural that they should continue to discuss the child's behavior between themselves.

Children's double dyadic turns were classified as either defined or ambiguous. Defined turns were clearly directed to both parents while ambiguous turns were those that children just seemed to throw out for either parent to pick up. The majority of children's double dyadic turns at 12 months were ambiguous in nature but by 24 months they were defined suggesting that sometime between 12 and 24 months children become more skilled at specifying the direction of the turn. It was mainly through the use of gaze that the 24 month old children defined the direction of their turns. It is suspected that this shift in the use of double dyadic turns may be a fairly sharp transition similar that reported by

Forrester (1993) with young children responding to their name use by mothers with a sibling. If this is the case, it will be more important in further investigations to track the change over time with individual children because averaging a large number of observations may blur the transition.

10.10 Conclusions

As expected, nonverbal behavior needs to be included in a full and accurate representation of triadic interaction, particularly with the young child. At 12 months of age approximately one half of the child's interactive repertoire is comprised of action turns while more than one third of the mothers repertoire is verbal/action in nature. This is critical information which cannot afford to be overlooked if further insight is to be gained into the triad.

A transcript of verbal behavior which may be sufficient to describe the dyad is inadequate in the description of the triad. Determination of the direction of the turn in the triad requires visual information. Direction was often determined by actions or gaze.

The triad contains more than a series of dyadic interactions. The triad is a richer, more challenging interactive environment. Double dyadic, and triadic interactions described in this study can not logically arise in the dyad. Even when turns appear to be dyadic in nature there may well be implications for the other triad member. The child has the opportunity to monitor parental exchanges, gain experience joining an ongoing interaction and participate in triadic joint reference. The triad presents challenges for the young child such as dealing with directing the turn and determining turn direction. On the other hand, it provides the child with access to competent communicators who are both interested in determining the child's communicative intent.

It is not surprising that children rely less on action turns and become more verbal in their communication from 12 to 36 months. It is the child's motoric as well as linguistic abilities that determine the behaviors that make up the interaction. Even 12 month old children bring some skills to the interaction. Through the use of actions and vocalizations they are able to gain and hold the attention of a parent. Through no response turns they demonstrate a form of selectivity. At 12 months children do not attach direction to many of their turns but by 24 months most of their turns carry direction.

It is evident from this study that when mothers and fathers come together and focus their attention on the young child an appropriate and stimulating environment can be created for the child. Parents were observed to use a variety of techniques to accomplish joint reference with the child. They attached communicative intent to the child's actions through the use of RUIs. They not only talk to the child about what he or she is doing they also talk to one another about what the child is doing.

10.11 Recommendations for future work

The present study of interaction in mother-father-child triads has raised several issues that merit further study.

It is clear that video taping must be the preferred method of data gathering in interaction analysis. Even dyads may have verbal/action turns and contain body language which carry significant meaning. A transcript of verbal behavior can filter out critical aspects of the interaction.

The triad is a rich interactive environment and should continue to be studied. In the present work the coding of the interaction has resulted in a classification of observed behaviors. However, not all theoretically possible types of triadic interaction were observed. Further study of the triad could broaden this classification scheme.

Longitudinal studies of mother-father-child triads should be continued with particular emphasis on the critical 12 to 24 month period to chart the transition from action dominated to verbal dominated behaviors. Following and charting developmental stages is probably more important than acquiring lots of data for establishing norms. Following the changes in parental RUIs may provide more information about how they manage joint reference. The changing use of children's double dyadic turns should be examined to shed more light on the development of implicature in young children.

Longitudinal studies in the present work revealed some differences in family style. This issue is also worthy of further research as it relates to facilitating language development. It is also likely that family style varies across cultures. (In an unpublished study of an aboriginal family by the author (Brewster, 1990) the family just sat and ate.)

There is a problem in attempting to measure changes in a child's communicative ability when the child has very little clearly identifiable speech e.g. some prelingually deaf children before receiving a cochlear implant. Some of the measurements developed in this triadic study may be of value because they encompass nonverbal as well as verbal behavioral information. This form of interaction analysis could play an integral role in assessing the child's communicative competence.

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APPENDIX A

Example of a Gloss

SUBJECT 16-36

The father opens a packet of apple juice and the mother says "apple juice." The child holds out his cup and asks the father to put the juice in the cup. The father repeats this. The mother suggests that the child tell the father what they got after his sister's immunization. The child tells them that his sister cried and the father repeats this as a question. The child and the mother agree. The mother asks the child what they got at McDonald's. The father asks the child if he got something at McDonald's. The child tells the father he got a milkshake. The father repeats milkshake in a surprised fashion and the mother agrees with the child. The father asks the child if it was good and the child tells him that he didn't want it to be finished. The father asks the child if he drank all of the milkshake. The mother says he did. The father reaches down and picks up some rolls and comments that they look good. The father asks the child if he would like a sandwich or a roll with butter. The child says no as he looks over his father's lap to see what else there is. He tells his father he would like something. The father tells the child there is salad. The mother exclaims on this and the father specifies that it is cold slaw. The mother asks the child if he would like some salad and the child says no he wouldn't. He says he would like something and the father brings out some bananas. Both mother and father repeat banana and comment on how good they are. The ask the child if he would like some banana and the child says he would. The father breaks off a banana and asks the child if he should peel it for him. The child says he should as he takes a drink of his juice. The father says he will and the mother asks the child if he would like some cheese. The child says he would like a piece of cheese and the mother opens the packet of cheese for the child.

APPENDIX B

The DataBase

No	Type	Agent	Direction	Function	Turn
1	ver/gest	m	m to c	I	did you see what was on the tray here Rob /points to tray/0:00:30:0
2	act	c	c to m	R	/looks at tray/
3	ver	m&f	m&f to c	I	looks like food to me (mom) (juice) and yogurt and cheese and crackers
4	nr	c	c		
5	ver/gest	m	m to c	Ir	and yogurt /points to yogurt/
6	nr	c	c		
7	ver/gest	m	m to c	Ir	and cheese and crackers /points/
8	nr	c	c		
9	ver	m	m to c	I	would you like something to eat
10	nr	c	c		
11	ver	f	f to c	Ir	you didn't have any breakfast Rob
12	ver	m	m to c	I	what do you think
13	ver	c	c to m	R	no but didn't eat my breakfast

APPENDIX C

Coding Key

Column 1. Number of the turn

Turns are numbered consecutively. A new record is created for each turn.

Column 2. Form of turn

What behavior constituted the turn?

The following abbreviations are to be used in the transcript: ver for verbal; gest for gestural; nr for no response; act for action; and combinations of ver/gest for verbal/gestural; ver/act for verbal/action; and gest/act for gestural/action.

Column 3. Agent

Who performed the turn?

The following abbreviations are used in the transcript: m for mother, f for father; c for child.

m&f are used for mother and father and no distinction is made as to who the dominant person in the turn is nor is it noted if one parent gives up the turn.

Column 4. Direction

Who was the turn addressed at?

The following directions are used to define the direction of the turn.

Dyadic Turns

These turns occur when one member of the triad addresses another member of the triad. (e.g. f to c represents the father addressing the child)

Double Dyadic Turns

These turns occur when one member of the triad addresses the other two members of the triad or when two members of the triad address the other one member of the triad (e.g. m to f&c represents the mother addressing the father and the child and m&f to c represents the mother and father addressing the child).

Triadic Turns

These turns take several different forms.

M to c imp f is used when one member appears to be addressing another but there is also a message for the third person.

Unison turns are considered to be triadic when all three members of the triad join in the unison. It is coded m&f&c.

Turns can change direction. a member of the triad begins speaking and then shifts attention to the third member of the triad. It is coded as m to c shift f where the mother addresses the child and then shifts her attention to the father. It is possible for one member of the triad to take a turn for the third member of the triad. This is coded m for c to f if it is the mother taking the turn for the child and addressing the father.

It is possible to have two interactions going on at the same time when actions and gestures are counted as interactive acts. This happened most frequently with the younger children. It was possible to have a parent feeding the child and at the same time carry on a conversation with the other parent. The less dominant interaction is coded m2 to c2.

Column 5. Turn

What was said or done?

The following symbols are used to denote co-vocalizations.

[] indicates the utterance occurred in unison the direction field indicates whether two or three people were involved.

{ }latched utterance brackets indicate rapid alternations in speaker.

< > accompaniment to a dominant utterance which occurs with a weaker supporting utterance the brackets are placed around the supporting utterance which is happening underneath.

() interruption brackets indicate where the co-vocalization occurs

^ indicates giving up of turn

/ / descriptions of behaviors are contain inside the slashes

APPENDIX D

Discourse Coding System

I	Initiation - a behavior which breaks the continuity with the preceding interaction and predicts a response.
R	Response - a behavior which is predicted by and in response to a preceding interaction.
R/I	Response/initiation - a behavior which is predicted by and responds to a preceding behavior and which simultaneously predicts a further response.
R/(I)	Response/(initiation) - a behavior which is predicted by and responds to a preceding behavior, and which simultaneously provides for the possibility of a further response.
cont	Continuation - a behavior which continues or adds to a previous behavior within a turn.
cont(I)	Continuation/(initiation) - a behavior which continues or adds to a previous behavior in a turn, and which provides for the possibility of a further response.

Ir

Reinitiation - a behavior which attempts to elicit a response following null or unsatisfactory responses.

This coding strategy is the same as that described by McTear (1985). The term behavior was substituted for utterance because nonverbal behavior was included as part of the interaction .