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Does Reticence Mean Just Talking Less? Qualitative Differences in the Language of Talkative and Reticent Preschoolers

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In our recent efforts to understand individual variation in the language acquisition process, the existence and nature of the communicative behaviors that differentiate reticent from talkative children have been virtually ignored. This study provides a preliminary investigation of this issue by analyzing the spontaneous language produced by four children who varied in degree of talkativeness in free-play dyadic interactions with a total of 28 different adults. Both structural complexity and discourse features analyses of the children's language revealed significant difference between the talkative and reticent children. A further question considered the influence of the children's degree of talkativeness on their adult conversational partners. While the structural complexity of the adults' language was not influenced by child talkativeness, several discourse parameters did reveal significant adjustments. Implications for the concept of reticence and for language acquisition theory are explored.

INTRODUCTION

While the concept of reticence has been studied for decades by researchers in a variety of disciplines under a variety of labels (e.g.,

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audience anxiety, shyness, stage fright, communication apprehension), it has been virtually ignored by scholars in the area of language acquisition. Regardless of particular disciplines or labels, the work to date has in common that it had dealt primarily with adults and has focused on variables "surrounding" reticence such as what occurs before (causes), alongside (correlates), and after (consequences). There has been little attempt, however, to study either the ontogenesis or the actual communicative behaviors of reticence. While it is clear that talkative and reticent children differ in the quantity of language they contribute to a conversation, the important question is to determine if qualitative differences exist as well. By using methodology developed by language acquisition researchers, the actual linguistic behaviors that distinguish talkative from reticent children can be described.

Understanding reticence from a linguistic perspective has important implications for two specific issues regarding language acquisition. These are (1) further understanding individual differences in language development and (2) further understanding the influence children have on adjustments adults make in talking to them.

In our recent efforts to understand individual variation in the language acquisition process, the existence and nature of the communicative behaviors that differentiate talkative from quiet children have not been considered. Indeed, most spontaneous language sample data upon which our knowledge of normal development is based have systematically eliminated the quiet child or selectively chosen the more talkative child (e.g., Brown, 1973). This practice, while expedient for the researcher, has perhaps narrowed our understanding of the true range of individual differences in language acquisition.

The quiet-talkative distinction provides a fertile ground for exploring the effects children have on the nature of the verbal input they receive from adults. There is ample evidence that speakers adjust semantic, syntactic, discourse, pragmatic, and paralinguistic aspects of their language in response to varying ages of their young conversational partners (see Elliot, 1981, for a review). A controversy exists in the literature regarding which specific age-related variable may be responsible, since many skills develop simultaneously with age. Several researchers believe that children's conversational skills are responsible for adult adjustments because they believe the adults' main goal in talking to young children is to maintain the interaction. The adjustments, as such, are aimed at eliciting responses from the children (Newport, 1976; Newport, Gleitman, & Gleitman, 1977; Shatz & Gelman, 1973; Snow, 1977). Other researchers believe that children's comprehension level determines child-directed talk modifications, believing the adults'

main goal is to help the child understand (Bohannon & Marquis, 1977; Cross, 1977; Ervin-Tripp, 1971; Van Kleeck & Carpenter, 1980; Wedell-Monig & Westerman, Note 1). The naturally occurring distinction between talkative versus reticent children in their propensity to engage in social interaction while sharing age-appropriate comprehension of language structure allows addressing this issue.

The purpose of the present study was to conduct an investigation of the language behaviors of reticent children and to ascertain how these compare with the language behaviors of more talkative children. This issue was approached from two interrelated perspectives, generating the following broad questions: (1) Are there qualitative differences in the linguistic structure and/or language use behaviors of talkative versus reticent children? (2) Do adults make differential adjustments in their linguistic behaviors when talking to talkative versus reticent children?

The multidimensional nature of language necessitated using various perspectives for this analysis. Since talkative and reticent children may well vary on some dimensions but not on others, it was necessary to use a broad-based analytic scheme. Similarly, these children may influence some aspects of the language of their conversational partners but not others. Here we considered two broad components of language widely recognized in the language acquisition literature, these being (1) linguistic form (i.e., structural aspects of language) and (2) language use features (i.e., both pragmatic intent and discourse functions.)

In the present study, 3-year-olds who varied in degree of talkativeness were observed in a seminaturalistic setting in order to determine the existence and nature of linguistic differences in their communication interactions with adults. Furthermore, the effects on the adults of interacting with children who varied along the dimension of talkativeness were of interest. Rather than attempting to cover all aspects of language in depth in this initial attempt, the purpose was to sample each area, thereby pointing to those areas that might be most productively explored in future research.

METHODS

Subjects

Children. This study looked at the language produced by four normal 3½-year-old girls (two talkative and two reticent) and their adult conversational partners. Two of the children had participated in a previous study (Van Kleeck & Carpenter, 1980), where it was informally noted that they

differed in the amount of talk they each contributed to spontaneous conversations with adults. Two other children were selected by teacher report, since research has shown that teachers' rankings of students' verbal interaction frequencies are most highly correlated with the children's actual interaction rate in preschool settings (Greenwood, Walker, Todd, & Hops, 1979). The teacher was asked to generate a list of talkative and quiet children. The second two subjects were randomly drawn from this list. All four children attended preschool. The native language spoken in each child's home was American English.

The results of several standardized tests indicated that all four children were developing language structure normally for their chronological age. Tested were receptive vocabulary (Peabody Picture Vocabulary Test; Dunn, 1959), receptive syntax (Test for Auditory Comprehension of Language; Carrow, 1973), and spontaneous expressive language (developmental sentence scoring procedure from *Developmental Sentence Analysis;* Lee, 1974). Standardized scores for each child in the form of percentiles are presented in Table I. For all three measures, scores fell within approximately 1 standard deviation of the mean, with no observable differences within this range between the performance of the talkative and the reticent children.

Table I. Percentile Scores for Each Child on Several Standardized Language Tests and the Breakdown of the Amount of Talk Each Child Produced in Spontaneous Interactions with the Adults

Subject	Developmental Sentence Scoring	Test of Auditory Comprehension of Language	Peabody Picture Vocabulary Test	Child Utterances per 100 Adult Utterances		
				N adults	*X*	*SD*
Quiet						
1	85[a]	75	69	6	40	15
2	26	84	64	8	35	19
Talkative						
3	47	54	87[a]	8	63	17
4	39	83	88[a]	6	92	29

[a]The percentile ranking at 1 standard deviation below the mean is 15.9 and at 1 standard deviation above the mean is 84.1. The scores with superscripts are slightly above plus 1 standard deviation.

Following data collection, a post hoc definition of talkativeness was generated on the basis of this average number of child utterances per 100 adult utterances. On this basis of this computation, the average number of utterances per 100 adult utterances was 38 for the reticent children and 78 for the talkative children. For each child, the means, standard deviations, and sample sizes on which these values were based are presented in Table I. On the basis of these data, it can be noted that the means for the two reticent children were well within 1 standard deviation of each other, and separated from the means of the talkative children by at least 1½ standard deviations. The most talkative child varied more than the other talkative child in the mean number of utterances she produced per interaction. Using this larger standard deviation, the two talkative children were also within 1 standard deviation of each other (although this was not true using the smaller standard deviation). This post hoc analysis, then, supported the preexperimental labeling of the children as either talkative or reticent.

Adults. The adults were 28 college-educated females from the Austin and Seattle areas who spoke American English as their native language.

Procedures

Each child interacted individually with six to eight previously unfamiliar adults so that differences would occur only if the children were consistently different over a period of time in their use of language in a similar social context. This assured that child differences were not solely a function of interacting with a particular adult conversational partner. That is, the design ruled out the possibility that the adult member of the conversational dyad was the primary cause of the child's response pattern. Furthermore, the design allowed determining the influence of the children on the adults.

Each child played with the adults for ½ hour in a small room at a university speech and hearing clinic. Child-size furniture and age-appropriate toys were available. The investigator was not present during the play session. Each session was videorecorded using a camera, mounted in the room, that was operated from behind one-way observational mirrors or from a control room. Prior to each session, the adult was simply told to interact naturally with the child for the duration of the ½-hour session.

Data

The data consisted of both adult and child talk occurring during the free-play session. To obtain samples for analysis, each videorecorded session was transcribed until 100 adult utterances were obtained for each of the 28 adults who participated. In total, there were 2,800 adult utterances and the accompanying child utterances that were analyzed according to the analytic scheme presented below. For all the samples, both adult and child language and the nonlinguistic situational context were transcribed according to conventions set forth by Bloom, Hood, and Lightbown (Bloom & Lahey, 1978, Appendix A.1).

Analytic Scheme

Both the structural complexity and language use aspects of the children's and adults' language were analyzed. The structural measures were intended to provide estimates of various aspects of language complexity and included (1) mean length of utterance (MLU), computed by determining the average number of morphemes per 100 adult and 100 child utterances (in cases where 100 child utterances were not obtained in the ½-hour sample, the maximum number of child utterances available were used); (2) lexical diversity, computed by determining a lexical type-token ratio based on the first 100 adult or child words; (3) a noun, verb, adjective, adverb ratio, computed by adding the number of nouns plus verbs and dividing by the number of adjectives plus adverbs in the first 100 words (a smaller ratio indicates greater grammatical complexity); and (4) a word-length index, computed by determining syllables per word based on the first 100 words (see Lynch, 1970, for a discussion of measures 3 and 4). For the children alone, the proportion of complex sentences was also determined.

The pragmatic functions included two broad categories, assertives and requestives, and subcategories of each. Assertives were subdivided into (1) evaluative comments, (2) complies, (3) noncomplies, and (4) other comments. Requestives included (1) verbal obliges (requiring a verbal response) and (2) requests for physical action. Requests for physical action were further coded into categories indicating direct versus indirect linguistic form.

The children's participation in ongoing discourse was considered by looking at their responses to comments and obliges posed in adult-initiated utterances. The nature of their own self-initiated utterances was also categorized into comments and obliges. This analysis was ap-

proached using a matrix categorization scheme that allowed the simultaneous coding of the behaviors of both partners in the conversational interaction. The categories, presented in Table II, were adapted from Blank, Gessner, and Esposito (1979). At the most general level, this scheme determined who initiated the topic. At the next level, the utterance of the initiator was classified broadly into either an oblige or comments. Obliges require responses, either verbal or nonverbal. They are frequently in question form. The comment category included all other utterances. The third and final level of analysis considered the responses of the noninitiator, if any. The four categories included here were (1) adequate response, (2) inadequate response, (3) no response, and (4) other. In the present study, the adequate response category was further divided into those that merely met the conversational obligation, and those that met but also elaborated or expanded in giving information.

Reliability

Four randomly chosen samples were both transcribed and scored by three independent judges to obtain reliability. For transcription, percent agreement for segmentation of the corpus into utterances, morpheme agreement, and description of the nonlinguistic context, and for categorization of utterances as a question ranged from 89 to 99%. For scoring procedures, interjudge agreement ranged from 85 to 99% for the structural complexity measures and from 72 to 92% for the pragmatic and discourse function measures.

Table II. Matrix Used for the Discourse Analysis of the Adult-Child Interactions[a]

Child as speaker-responder	Adult as speaker-initiator		Adult as speaker-responder	Child as speaker-initiator	
Response types	Comments	Obliges	Response types	Comments	Obliges
1. Adequate			1. Adequate		
(a) meets			(a) meets		
(b) expands			(b) expands		
2. Inadequate			2. Inadequate		
3. No response			3. No response		
4. Other			4. Other		

[a]Adapted from Bank, Gessner, and Esposito (1979).

Statistical Analysis

For all measures of the four children's language, *t* tests were conducted using each dyadic interaction as the source of variation. Thus, for the two talkative children combined, three were a total of 14 adult-talkative child interactions, since one child interacted with six different adults and the other with eight. Likewise, there were 14 adult-reticent child dyadic interactions. With this total of 28 interactions in both groups combined, confidence levels were determined at 26 degrees of freedom.

In effect, the two talkative and the two reticent children created (albeit quasi-experimentally) two different treatment conditions for the 28 different adult subjects (14 per condition). Here again, *t* tests were conducted, using 26 degrees of freedom.

Since they are computed by equalizing the quantity of utterances or words that go into the various calculations, the structural complexity measures all address qualitative differences. Thus, a higher MLU for the talkative children, for example, would indicate a comparatively greater proportional frequency of longer utterances (given that the standard deviations indicated similar distributions). This would mean not only that quiet children talk less (a quantitative issue) but also that the utterances they do use when they talk tend to be less structurally complex (a qualitative difference).

For the pragmatic functions and discourse functions of the children's language, in order to adjust for quantitative differences, proportional data (arcsin transformations) were used. For example, for the two major pragmatic function categories of assertives and requestives, the proportion of each child's total number of utterances that fell into each category was used. For the subcategories of assertives, for example, the data consisted of the proportion of the total number of assertives that fell into each category.

For the analysis of pragmatic functions occurring in the adults' language, there was no need to transform the data to proportions since the sampling procedure held the total number of adult utterances at a constant of 100.

Since the analytic scheme employed contained several categories and subcategories within each language domain investigated, it was necessary to take precautions against the corresponding increased probability of committing a Type I error. This was done by dividing the traditionally accepted probability level of .05 by the number of tests being conducted in each particular category. The allowable probability level thus varied

depending upon the number of tests being conducted within a particular domain—be it structural complexity, pragmatic function, or discourse function. Thus, for each of the five structural complexity measures of the children's language, the probability level was set at .01. For the adults, where four measures of this type were employed, a probability of .0125 was acceptable. Furthermore, the above tests were two-tailed, since an expectation of greater structural complexity by either group of children or addressed to either group of children could not be confidently hypothesized.

On the pragmatic function measures, a hierarchy was established for conducting the statistical tests. First, the utterances were dichotomized into assertives and requestives. Dividing the probability level here, a p level of .025 was required. For the five subcategories of assertives, a p level of .01 was requred. For the two subcategories of requestives, .025 was required. Also, for the direct versus indirect form of the requestives, .025 was required. For the dicsourse measures, five response types to adult-initiated comments and obliges were coded. As such, a p level of .01 was required here.

RESULTS

Child Behaviors

As shown in Table III, on the structural complexity measures, the talkative children had a significantly higher MLU, significantly more lexical diversity, and a greater proportion of complex sentences than the reticent children. Differences were not observed on the noun-verb, adjective-adverb ratio or on the word-length index.

Regarding pragmatic function measures, Table IV gives the proportion of the total talk produced by the two types of children that were categorized as assertives, requestives, and subcategories of each. On all measures, excluding requests for verbal response, the proportional frequencies were significantly different for the two groups. Compared to the reticent children, the talkative children had a lower proportion of assertives in their talk, with a lower proportion of comments but a higher proportion of complies within that category. Correspondingly, the talkative children had a greater proportional frequency of requestives, with the subcategory of requests for physical action accounting for this difference. Both groups of children encoded their requestives in a direct form the vast majority of the time. However, the proportional frequency of indirect requestives was significantly higher for the talkative children.

Table III. Means ($\bar{x}$), Standard Deviations (*SD*), and *t*-Test Values for the Structural Complexity Measures of the Talkative and Reticent Children

Complexity measures	Talkative		Reticent		*t* value	*p* level[b] (26 *df*)
	$\bar{x}$	(*SD*)	$\bar{x}$	(*SD*)		
1. Mean length of utterance	3.8	(.30)	2.8	(.45)	4.04	.01
2. Lexical type/token ratio	1.77	(.09)	1.53	(.14)	3.15	.01
3. Noun-verb-adjective adverb ratio	2.63	(.66)	3.08	(1.83)	.36	
4. Word-length index	1.14	(.04)	1.12	(.04)	.50	
5. Proportion of complex sentences	.513[a]	(.23)	.89[a]	(.07)	7.26	.01

[a]Mean reflects arcsin transformation.
[b]*P* values are for a two-tailed test at 26 degrees of freedom.

The analysis of discourse functions, displayed in Table V, revealed no significant differences between the two groups of children. A second analysis of the children's language at the discourse level considered the nature of the child-initiated utterances. In Table VI it can be seen that the talkative children had a lower proportion of comments and a correspondingly higher proportion of obliges in their self-initiated speech.

Adult Behaviors

As indicated in Table VII, no significant differences in adult language to talkative versus reticent children were obtained on the measures of language complexity. Regarding the pragmatic functions, adult speech to talkative children was systematically different from speech to reticent children in several ways. Table VIII indicates that the adults' use of assertives and requestives as determined by raw score per 100 utterances (thus reflecting proportional data as well) varied significantly between groups, with more assertives and fewer requestives being addressed to the talkative children. Analyzing the data within the category of assertives, the adults used more comments, more complies, and more noncomplies. within the category of requestives, verbal obliges were addressed to the talkative children with less frequency. The frequencies of

Table IV. Proportions of Talkative and Reticent Children's Total Talk That Were Assertives and Requestives[a]

Pragmatic function	Talkative		Reticent		t value	p level[c] (26 df)
	$\bar{x}^b$	$\emptyset$ (SD)	$\bar{x}^b$	$\emptyset$ (SD)		
Assertives	77	2.22 (.34)	91	2.62 (.37)	2.62	.025
Comments	75	2.12 (.31)	90	2.58 (.35)	3.68	.01
Complies	2.14	.24 (.17)	.64	.07 (.15)	2.83	.01
Requestives	23	.92 (.35)	9	.51 (.40)	2.88	.01
A. Function						
1. For verbal response	84.6	.64 (.34)	51.6	.48 (.40)	1.13	
2. For physical action	48.5	.55 (.32)	15.4	.40 (.13)	4.07	.01
B. Form						
1. Indirect	11	.60 (.40)	1	.06 (.18)	3.86	.01
2. Direct	89	2.5 (.39)	99	3.03 (.16)	4.08	.01

[a]Where sufficient data allowed, the proportion of total assertives and requestives that fell in to the subcategories of each was also analyzed.

[b]Actual means provided for conceptual clarity; the t tests were conducted using arcsin ($\emptyset$) transformations of these values.

[c]P values are for a two-tailed test at 26 degrees of freedom.

requests for physical action were not statistically different. The adults used direct requests significantly more often with the reticent children. The frequency of indirect requests did not differ significantly.

DISCUSSION

Child Behaviors

The analysis performed in the present study revealed numerous differences between the language of the two talkative and two reticent children observed. These differences were noted in structural complexity, in pragmatic functions, and in the discourse functions of the children's self-initiated speech.

Structural Complexity. Concerning structural complexity, pretesting established that the reticent children had age-appropriate knowledge of

Table V. Qualitative Analysis of Discourse functions[a]

	Talkative		Reticent		
	$\bar{x}^b$	0 (*SD*)	$\bar{x}^b$	0 (*SD*)	*t* value[c]
Adequate response rates to comments					
a. Meets and expands categories combined.	26	1.04 (.19)	19	.87 (.30)	1.81
b. Expands only	76	2.20 (.53)	71	1.67 (.99)	.07
Adequate response rates to obliges					
a. Meets and expands categories	74	2.10 (.19)	80	2.13 (.61)	.18
b. Expands only	25	2.20 (.53)	29	1.67 (.99)	.07
No response rate to comments	73	2.05 (.25)	70	1.98 (.18)	.88
No response rate to obliges	26	2.05 (.25)	30	1.98 (.18)	.88

[a]Numbers entered in the table represent proportion of total number of child adequate responses or no responses that were to comments or obliges.
[b]Actual means are provided for conceptual clarity; *t* tests were conducted using arcsin transformations of these values.
[c]All values are nonsignificant at 26 degrees of freedom.

language structure. This was established both receptively and expressively. That is, the reticent children's disinclination to engage in conversation was not due to pathological or delayed development of the formal aspects of their language. The significant differences on three of the five measures tapping structural complexity indicate a qualitative difference

Table VI. *T* Tests for Proportion of Total Child-Initiated Speech That Were Comments or Obliges

	Talkative		Reticent			
	$\bar{x}^a$	0 (*SD*)	$\bar{x}^a$	0 (*SD*)	*t* value	*p* level[b] (26 *df*)
Comments	65	1.96 (.72)	90	2.70 (5.3)	3.07	.025
Obliges	35	2.70 (.53)	10	1.96 (.72)	3.07	.025

[a]Actual means are provided for conceptual clarity; *t* tests were conducted using arcsin transformations of these values.
[b]*p* values are for a two-tailed test.

Table VII. Means ($\bar{x}$), Standard Deviations (*SD*), and *t*-Test Values for the Four Measures of Structural Complexity of Adult Language with Talkative and Reticent Children

	Adults with talkative children		Adults with reticent children		
	$\bar{x}$[a]	*SD*	$\bar{x}$[a]	*SD*	*t* value[a] (26 *df*)
Complexity measures					
1. MLU	5.4	.76	5.4	.64	.22
2. Lexical type/token	1.78	.13	1.72	.15	1.20
3. Noun-verb-adjective-adverb	2.48	.89	3.55	1.88	1.92
4. Word-length index	1.17	.05	1.16	.06	.48

[a]All values are nonsignificant.

between the groups. It was not the case that the reticent children simply talked less when engaged. In a spontaneous conversation, they were also less inclined to use the full range of complexity they demonstrated on

Table VIII. Means ($\bar{x}$), Standard Deviations (*SD*), and *t*-Test Values for the Raw Frequencies of Occurrence of Each Pragmatic Function in the Adult Language Addressed to the Talkative and Reticent Children

	Adults with talkative children		Adults with reticent children			
	$\bar{x}$	(*SD*)	$\bar{x}$	(*SD*)	*t* value	*p* level (26 *df*)[a]
I. Assertives	57.28	(9.47)	42.84	(11.49)	3.628	.01
1. Positive evaluation	4.35	(4.36)	5.0	(3.20)	.45	
2. Negative evaluation[b]	.21	(.58)	.14	(.53)		
3. Comments	37	(12.52)	47.93	(11.05)	2.45	.025
4. Complies	4.14	(3.37)	.57	(.85)	3.80	.01
5. Noncomplies[b]	.43	(.94)	0	(0)		
II. Requestives	39.14	(13.75)	57.14	(11.49)	3.757	.01
A. Function						
1. For verbal response	32.93	(8.9)	45.1	(14.75)	2.646	.025
2. For physical action	9.79	(5.21)	11.36	(7.45)	.636	
B. Form						
1. Indirect	4.5	(2.59)	5.64	(5.48)	.623	
2. Direct	38.21	(9.42)	51.57	(13.63)	3.02	.01

[a]Two-tailed test.
[b]Insufficient frequency for statistical comparison.

standardized tests. Regarding the implications of this finding, one might question the potential impact of the consistent use of less complex language on the language development of the reticent child. Snyder-McLean and McLean (1977) discuss how talkativeness may be one strategy children use for furthering their knowledge of language. If this is the case, reticence may actually be deleterious to the language acquisition process. Reticent children might simply get less practice and as such may eventually fall behind in their knowledge of language form.

Research on both normal and delayed language development frequently uses mean length of utterance (MLU) as an indicator of language development. Often groups of subjects are matched on this criterion alone. The findings in the current study that MLU did not equally reflect the syntactic knowledge of talkative and reticent children raises some perplexing issues. Have we been systematically biasing research findings by the assumption that MLU is a good indicator of syntactic development? Is it possible that quiet children have been systematically eliminated from much research in which children were matched on MLU, simply because their MLUs have made it appear that their syntactic development was inadequate for their chronological age? If so, those included in much research may represent a special subset of children developing language normally—that is, those who are more loquacious. Biasing of the samples included in studies would have the effects of narrowing our understanding of the true range of individual differences in the normal development of language.

In other research where children have not been originally matched for MLU, it is possible that not distinguishing between talkative and reticent children may have served to obscure the results obtained. That is, there may be an interaction effect between a child's talkativeness and the type of response she or he has to different situational variables. In data collapsed over these two types of children, such differences would be obscured. This concern was raised in a study of stimulus conditions used in language sampling that was conducted by Longhurst and File (1977). Further research using larger numbers of talkative and reticent children is needed to corroborate the present results regarding language complexity in general and MLU specifically. Determining a consistent influence of the talkative/quiet dimension on MLUs obtained from spontaneous language samples would clearly be important to interpreting previous research and designing future studies.

Pragmatic Functions. The data support the position that there are qualitative differences in the pragmatic functions used by talkative versus

reticent children, since the reticent children did not exhibit the same proportional use of the various functions measured.

While both groups of children had more assertives than requestives in their speech, the reticent children had a significantly higher proportion of comments. Correspondingly, they had a significantly lower proportion of requestives, accounted for by fewer requests for physical action. This pattern of findings suggests that the reticent children were less inclined than their more talkative peers to use language to manipulate others. This tendency is further corroborated in that noncomplies, a subcategory of assertives, occurred only in the speech of the talkative children (an average of .5 occurred in the talkative children's talk, while none were observed in the reticent children's talk), even though the adults addressed a similar number of requests for physical action and significantly more requests for verbal responses to the reticent children (see Table VIII). This overall pattern may indicate a power-sharing or symmetry in the conversations of the adult-talkative child dyads that was not present in the adult-reticent child dyads.

The reticent children appeared in general to be more restricted in their use of language. No instances of positive or negative evaluation or noncomplies, two subcategories of assertives, were found in their language samples. Complies were present, but there were proportionally significantly fewer of them. In the course of language development, children learn to verbally encode a greater range of language functions (e.g., Halliday, 1973, 1975). As such, the more restricted range of functions observed in the reticent children could be regarded as evidence for a skill delay. The fact that the talkative children encoded a significantly greater proportion of their requests in indirect forms further bolsters the argument for a delay in skill acquisition, since the indirect forms are later emerging.

Discourse Functions. Regarding the discourse parameter of the children's language, the proportion of each type of child's total number of adequate responses that were to comments as opposed to obliges was not significantly different. This finding indicates that the two groups of children showed similar response patterns to adult-initiated utterances.

The pattern that emerged for both types of children regarding expanding upon required information in response to both comments and obliges warrants further discussion. The children's responses to adult obliges and comments were analyzed into those that met the conversational obligtion and those that met and also offered additional unsolicited information. For example, if a child responded "yes" to a yes/no question posed by an adult, she or he was merely meeting the response

obligations. On the other hand, when asked "How old are you?" the child might respond, "Three and my sister is nine." All of the children very rarely offered additional information in response to obliges. This finding supports other empirical evidence that questions can inhibit spontaneous conversation in children (see Hubbell, 1977, for discussion).

On child-initiated utterances, a qualitative distinction did emerge. The reticent children had a greater proportion of comments and a correspondingly smaller proportion of obliges. This finding regarding child-initiated utterances reflects the findings regarding the general pragmatic functions of the children's talk, where more comments than obliges were observed. Again, since the talkative children were requiring more adult responses in their self-initiated utterances, they appeared to be more active and controlling participants in the conversations. This resulted in a more symmetrical discourse pattern, since the onus of maintaining the conversation was lightened for the adult member of the dyad. In this sense, the adult-talkative child dyads resembled more the symmetrical interactions characteristic of conversations between equal status (for adult) or equal age (for children) participants (e.g., Giles, 1973, 1977; Lougee, Grueneich, & Hartup, 1977, Van Kleeck & Cooper, Note 2). It appears, then, that symmetry of conversational exchange may be one further parameter that distinguished talkative from less talkative children.

Adult Behaviors

Regarding the adults' language, the results indicated that discourse but not structural aspects of adult's language were influenced by degree of child talkativeness. These findings of no significant differences in structural complexity might be used to indirectly support the comprehension model for this particular aspect of the adults' talk, since the children were all at the same comprehension level and the language addressed to them was also of equivalent complexity.

On the other hand, significant differences did occur on numerous measures of the pragmatic aspects of adult talk. As such, the comprehension model cannot account for these results. For this dimension of adult talk, it appears the conversational model has been supported, since the adults' behavior with the reticent children reflects an attempt to engage the child in the interaction. That is, questions more explicitly oblige a child to respond and thus participate in the conversation. The more talkative children apparently kept up their end of the conversation without frequent questions being posed.

The possible negative impact of the noted adult talk modifications on the development of reticent children warrants discussion. Bell (1971, 1974) discusses how parents naturally react to either extremes of quantitative excess or deficiency in children's behavior. Child behaviors that are excessive trigger what he terms upper-limit controls, which are intended to reduce the excessive child behavior. Conversely, insufficient child behaviors trigger lower-limit controls, which serve to stimulate or increase the insufficient child behaviors. Question asking (verbal obliges) appear to be a naturally occurring lower-limit control employed to compensate for the lack of spontaneous responsiveness in reticent children. It is not clear, however, that this is the most effective strategy for increasing these children's insufficient behavior. On the contrary, evidence exists that question asking may constrain children's conversational participation (see Hubbell, 1977). Berger, Gardner, Park, Schulman, and Miller (1976) discuss a similar concept with adult interactions. They argue that there is a limit on the number of questions that may be asked per unit of time. When limits are exceeded, the person being asked the questions is likely to become reticent to answer them.

The interactions that reticent children naturally elicit from adults may tend to decrease rather than increase their already low level of verbal responsiveness. Reticent children may as such be candidates for conversational skill training, since a plethora of negative consequences associated with reticence in academic, economic, and social realms is well documented. Furthermore, adults might be trained to interact with such children in a manner that would facilitate rather than constrain the child's tendency to participate in conversation.

CONCLUSIONS

The Nature of Reticence

While conclusions regarding talkative and reticent children in general must remain guarded due to the small sample size in the present study, this preliminary investigation contains numerous findings that offer insights into the nature of reticence. Two noteworthy causal explanations emerged from patterns noted in the current data that deserve further examination.

Several findings suggest a skill delay in the social use of language on the part of the reticent children. As is characteristic of normal younger

children, these children had a narrower range of pragmatic functions coded linguistically and a smaller proportion of questions in their speech. In some ways, the adult talk addressed to the reticent children resembled talk to younger children. For example, other research has found that the rate of direct requestives (imperatives) decreases as the age of the child being addressed increases (Bellinger, 1979; Newport, 1976; Rondal, 1978; Glanzer & Dodd, Note 3). Also, the number of questions addressed to the child also decreases as a function of age (Cross, 1977; Longhurst & Stepanich, 1975). In general, the number of declaratives also increases with an increase in the age of the child being addressed (Newport, 1976; Glanzer & Dodd, Note 3). In the present study, these same adjustments characteristic of talk to younger children were also found in the talk addressed to the reticent children. In many ways, then, the reticent children were both acting and being treated conversationally as if they were younger than their more talkative peers. While any broad generalization regarding these findings is premature, it does appear that there may at least be a subgroup of reticent children who exhibit a delay in the social use of language. Since it has been established that knowledge of structure was not delayed for these children, these findings suggest a communication deficiency. While such a distinction has been suggested in the literature (e.g., Bloom & Lahey, 1978; Nelson, 1978), there have been no empirical reports of actual children fitting such a description. The reticent children in the present study provide an initial characterization of the actual language behaviors of such a child.

An alternative, or perhaps complementary, explanation of the current findings resides in regarding the behaviors of the reticent children as an individual difference. Implicit in the skill delay model is the notion that the reticent children might eventually "catch up" with their more loquacious peers. One might view the reticent children's behavior instead as reflecting an individual difference in social style, i.e., a personality characteristic that is not outgrown. The reticent children displayed a general pattern of conversational "nonassertiveness" that would fit well with this explanation. Indeed, some of the same findings that support a skill delay model (e.g., low rate of question asking) could also be construed as evidence of nonassertiveness. Moreover, responses of the adults may simply be characteristic of adjustments to less sociable interactants, including, but not exclusively consisting of, younger children. Research focusing on the language behaviors of reticent adults might provide a fruitful approach for further exploring this personality characteristic explanation of reticence.

Regardless of which of these possible explanations holds, the negative consequences for the reticent child and thus the need for intervention in more extreme cases remains. A recent study by Furman, Rahe, and Hartup (1979) offers one possible avenue for intervention. These researchers found significant increases in the sociability of socially withdrawn preschoolers during and after 10 play sessions with chronologically younger children. Since prosocial behavior in general increases with age (see Hartup, 1970), these mixed-age dyads provided a better match in number of social overtures. With the better match, a more symmetrical communication exchange is established, giving the socially withdrawn child a communicative experience denied in interactions with more talkative age-peers.

Normal Language Acquisition Theory Implications

This preliminary investigation addresses two issues of importance to normal language acquisition scholars. Most notably, caution is due in using MLU as an indicator of syntactic development in studies of language development. Other researchers have recently raised concerns about the validity and reliability of this very widely used measure (e.g., Chabon, Kent-Udolf, & Egolf, Note 4; Meline & Meline, Note 5; Messick, Note 6). Undoubtedly, further research is needed to unequivocally establish the contribution of the talkativeness dimension to this recently documented variation in MLU.

Regarding child variables that influence adults' child-directed talk, the current study offers evidence that a child's conversational responsiveness effects adults' pragmatic adjustments but does not influence the structural complexity of their talk. As such, support for both the conversational and comprehension models of child-directed talk has been found, although each explains a different aspect of the adult's language input.

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