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**Children's communicative adjustment to retarded and  
nonhandicapped peers**

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**The University of Arizona, 1987**

**U·M·I**

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Ann Arbor, MI 48106**



CHILDREN'S COMMUNICATIVE ADJUSTMENTS TO  
RETARDED AND NONHANDICAPPED PEERS

by

Laurie Louise Martin

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A Thesis Submitted to the Faculty of the  
DIVISION OF SPECIAL EDUCATION AND REHABILITATION

In Partial Fulfillment of the Requirements  
For the Degree of

MASTER OF ARTS  
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In the Graduate College

THE UNIVERSITY OF ARIZONA

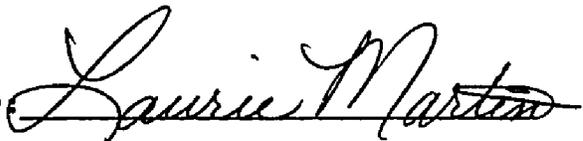
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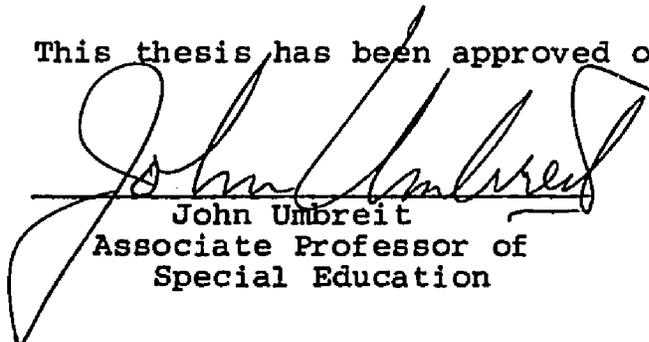
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## ABSTRACT

Research has suggested that a listener's age influences a speaker's linguistic behavior and that a listener's developmental capabilities can alter a speaker's behavior as well. Yet to be addressed is how the combination of different-age listeners and developmentally delayed individuals affects preadolescents' communication. The present study investigated this question. While being videotaped in a lounge-like setting, two 11-year-old females separately interacted with three different same sex listeners: a younger nonhandicapped child (6 years old); a nonhandicapped peer (11 years old), and a retarded peer (also 11 years old). One of the retarded girls was much higher functioning verbally than the other. Analysis of the videotaped interactions focused on the preadolescent girls. Measures were taken on the number, duration, and content of their initiated interactions. The results demonstrated that the speaker who addressed the less verbally adept retarded peer made more communicative adjustments than the speaker who talked with the more verbally advanced retarded peer, more than when she talked

with the two nonhandicapped listeners. Also, both speakers seemed to talk to the younger peer much like they spoke with the normal same-age peer. This finding suggests that the age of the listeners had less influence on the speaker's linguistic behavior than the developmental level of the listener. These findings with school-age children are compatible with previously reported data on interactions between retarded and nonhandicapped preschool children.

## CHAPTER 1

### INTRODUCTION

Social integration of mainstreamed mentally retarded students is a major concern in special education today. One key component in developing successful social environments is to learn more about how nonhandicapped children communicate with one another and with their mentally retarded peers. Research suggests that successful social interactions among children depends in part on a speaker's ability to "adjust" his or her linguistic behavior to listeners who differ in age or developmental competence. Most studies have looked at the influence of either age or developmental level on a speaker's linguistic modifications.

The general design of these studies consist of dyads involving a speaker, who is a constant participant in each conversation, and two or more listeners. The speaker usually talks with only one listener at a time. Depending on the area of research, the listeners vary from each other either in age or in developmental level (i.e., degree of retardation). Usually, data are collected in natural or

quasi-natural settings such as partitioned classrooms, at-home settings with mothers as the primary data collectors, or at home with researchers present. The data usually are audio tape recorded and are transcribed. Once transcribed, the recordings are analyzed to determine whether modifications in the speaker's speech occurred in relation to certain characteristics of the listener and whether the adjustments were considered appropriate.

Several investigators have examined the influence of the listener's age on children's linguistic adjustments. For example, Berko-Gleason (1973) studied how children modified their speech towards adult and non-adult listeners. Her method involved visiting the homes of several children, ranging in age from about two to eight years, to observe them in natural conversation with family members, including different-aged siblings. Her anecdotal descriptions from this study revealed definite differences in the children's speech toward adults and toward their siblings. Berko-Gleason concluded that, similar to adults, children vary their speech according to the listener's age.

Shatz and Gelman (1973, studies b and c) also investigated variations in speech influenced by the listener's age. They examined tape-recorded conversations conducted at the home of 13 four-year-olds talking 30 minutes

each with a two-year old, a four-year-old peer, and the mother. These transcribed conversations revealed that the four-year-olds used less complex syntax and more attention-getting words, and produced shorter utterances when speaking to a younger child than when speaking to either a peer or an adult.

Further investigations by Sachs and Devin (1976) and James (1978) revealed similar results about the influence of listener's age. In Sachs and Devin's study, the speech of four- and five-year-old subjects was tape-recorded at home by the mother. Each subject talked to a younger child (one- and two-year-olds), a same age peer, the mother, and a baby doll. Also the subjects were asked to speak to their mothers as if they themselves were babies "just learning how to talk." Analysis of each subject's transcription suggested the subjects' speech to the young child and baby doll was syntactically and semantically less complex than the speech used for the peers and mothers.

In a laboratory setting, James (1978) studied four- and five-year-old children role-playing with a doll speaking to three other dolls (listeners) representing different ages (young child, same age peer, and adult). This study proposed to investigate whether a listener's age affected a child's politeness when instructed to request

something of the listener or to command him or her to do something. The transcribed tape recordings revealed that in situations involving a command and, to some degree, in situations involving a request, the adult-doll received the most polite directives, the young child received the least, and the peer was intermediate.

Ghezzi, Bijou, Umbreit, and Chao (1987) studied this phenomenon with older, school-age children. Their subjects were 11-year-olds and included four girls and one boy. Each speaker talked with three different same-sex listeners: an 11-year-old, a six-year-old, and an adult (early to mid-twenties). Each dyad was observed on at least four occasions. During a session, each dyad was shown a 10-minute segment of a TV show to encourage conversation and then were left alone in a "lounge-like" laboratory setting to converse for 10 minutes while being videotaped. The analysis of each session focused on the speaker's behavior, the listener's behavior, the referent (i.e., object, person or event referred to), and any secondary adjustments (i.e., language used to amuse, teach, persuade, support, or punish). The results indicated the 11-year-old speakers generally initiated more interactions with the six-year-old listeners than with the adult listeners, suggesting that "control" of the

conversation swung to the adult in the speaker-adult dyads. The duration of most speakers' initiations were shortest with the younger child listeners and longest with the adult listeners. Interestingly, when the speaker talked with the adult, the referent usually involved the speaker or his or her family and friends; when talking with the younger child, the referent most often involved the child. These findings suggest that preadolescents also adjust their linguistic behavior in relation to a listener's age.

Rather than focusing on different-age listeners, some investigators have examined the influence of the listener's developmental level (i.e., degree of retardation) on a speaker's adjustments. A series of studies by Guralnick and Paul-Brown (1977, 1980, 1984, 1986) dominates the literature on this topic. In general, they found that nonhandicapped preschool children adjust their communications toward developmentally delayed preschool children according to the latter's degree of retardation. The general design of these studies is similar to the previously described research, although all four studies were conducted in a mainstream preschool program and involved a tutorial setting as well as free play sessions (for comparative purposes).

In their first study (1977), Guralnick and Paul-Brown analyzed the structural properties (i.e., mean length of

utterance (MLU), grammatical complexity, etc.) of the speech of eight nonhandicapped, preschool-age children in a tutorial and free play setting with other nonhandicapped children or with listeners who manifested varying degrees of mild, moderate, or severe retardation. In experiment I, after receiving instructions, the subjects tutored a "companion" child (nonhandicapped or handicapped) for 15 minutes about how to make particular drawings. In Experiment II, each subject and companion engaged in free play activities which occurred during the regular preschool program. Analysis of transcriptions from each situation, revealed that the subject's speech to handicapped children was less complex, less frequent, and less diverse in both settings.

Methods and procedures from the 1977 study generally were replicated in two more studies (Guralnick & Paul-Brown, 1980, 1984), except that in the tutorial session, the "companion" child was taught how to play with a toy rather than how to draw. Each study examined a different aspect of communicative adjustment. In the 1980 study, they investigated how the nonhandicapped child used his or her language to increase the possibility he or she would be understood and responded to by the handicapped listener. In addition to syntactic complexity, the functional and discourse aspects of the nonhandicapped child's speech also

were analyzed. Specific areas of analysis included: behavioral requests, informational statements, informational requests, relevancy of the utterance, dominant speaker in the conversation, nature of nonverbal assistance, and the use of repetitions. As expected, behavior requests decreased as the developmental level increased, and informational statements and requests increased as the developmental level increased. Although the nonhandicapped child was the dominant speaker when he or she was paired with a less advanced child, the nonhandicapped child shared the conversation equally when paired with another nonhandicapped child. Conversations were more complex and repetitions decreased as the companion's developmental level increased. In general, the nonhandicapped subjects successfully modified their language in relation to the companion's developmental level to presumably increase the possibility of getting a response from the listener.

In the 1984 study, Guralnick and Paul-Brown investigated communicative adjustments in which behavior-requests had occurred but the "companion" child had failed to respond. Analysis revealed that the nonhandicapped subjects were persistent in using a wide variety of strategies to gain the compliance of the companion child. In fact, the nonhandicapped speakers modified their

strategy in 79.9% of the instances when the companion child fail to respond. Their efforts resulted in some appropriate listener response in 49% of the episodes.

Most recently, Guralnick and Paul-Brown (1986) combined all of the variables (complexity, function, discourse, behavior requests) from their previous three investigations into one study and compared whether mildly delayed children made communicative adjustments similar to those that nonhandicapped children made when they addressed "companion" children. Data were collected only during free play. As suspected, mildly retarded subjects directed a larger amount of behavior requests and a smaller amount of information statements and requests to the more developmentally delayed children. Similarly, the mildly delayed preschoolers modified their communicative strategies much like their nonhandicapped peers to gain compliance when the companion did not respond to the behavior request. Overall, the adjustments were very similar to those made by their handicapped peers.

Although these studies have reported similar results, each has certain limitations. First, in most of the studies, there have not been enough sessions to gauge the stability or representativeness of the data. For example, Berko-Gleason conducted only two, one-hour sessions per family; James analyzed a single session for

each of the three listeners. Similarly, Shatz and Gelman based their findings on only two, 30-minute sessions, and Sachs and Devin were not clear about the number or duration of their sessions. In each of Guralnick and Paul-Brown's studies, each dyad was observed for only a single 15-minute session.

A second limitation is the presumed spontaneity of the children's and adults' speech. Shatz and Gelman directed each mother to act "as natural as possible," to "avoid asking yes-no questions," to "not read to the child," and to "refrain from entering the conversation" while at home taping the subjects. These instructions could have put restraints on the so-called "spontaneous" sessions, making suspect any generalities from these studies. Similarly, Sachs and Devin required mothers to conduct at-home recordings of the subjects while they were supposedly engaged in "spontaneous free play" that sometimes was instigated by mothers making "play suggestions." Specifics about the suggestions were not described nor did they identify the sessions in which these "play suggestions" occurred. In all of Guralnick and Paul-Brown's studies experimenters were present during the tapings of every session. In the 1977 and 1980 studies, experimenters were required to give prompts to the speaker if he or she had not spoken during a 20-second interval.

In all of these cases, the presence of any "outsider" could have restricted or otherwise influenced the speaker-listener interactions which occurred. The same holds true for the studies by Berko-Gleason (1973) and by James (1978). Berko-Gleason usually had one or two experimenters present during the taping of families in "natural" settings and James was in constant contact during role-playing with dolls in her study.

Despite these problems, the previous studies still suggest that a speaker's behavior is influenced both by the listener's age and by his or her developmental level (in cases of retardation). Yet to be addressed is how different age listeners, including mildly and moderately retarded peers, affect the speech adjustments of older subjects (e.g., 11 year-olds). The present study incorporated the general design of the previous studies to investigate this question. Mentally retarded and nonhandicapped children serves as listeners. Because there is very little literature on older children's communicative adjustments, the present study used nonhandicapped peers (11 year-olds) and nonhandicapped younger children (6 year-olds) for comparative purposes. Also, this study focused not only on the occurrence of communicative adjustments of normal peers, but also the type of adjustments made toward the respective listeners.

Compared to most previous studies, the number of sessions per dyad was greater, the circumstances and setting were constant and were carefully designed to encourage natural speech, and all sessions were videotaped and analyzed thoroughly to obtain maximum information.

## CHAPTER 2

### METHOD

#### Subjects

##### Speakers

The subjects were two nonhandicapped 11-year-old girls who served as speakers. Both had experience working in classes with retarded students and appeared to be from middle-class families. They attended a public elementary school at which the study was conducted. Speakers were selected by their teachers on the basis that the girls had "average" or slightly "above average" intelligence and could afford to spend a brief amount of time (20-25 minutes) out of class each day for a few weeks.

##### Listeners

The peer listeners were: two nonhandicapped 11-year-old girls; two moderately retarded 11-year old girls, and; two nonhandicapped 6-year-old girls. All participants were from middle-class families and were identified by teachers as children who could miss some time from class. The speakers and the nonhandicapped 11-year-old peer

listeners were picked from different classes to avoid any "close" relationships that might have altered their conversations. Listeners were selected on the basis of possessing similar characteristics (i.e., both normal peer listeners had similar characteristics: IQ, physical appearance, willingness to converse, etc.). In the case of the retarded listeners, there were no physical deformities (e.g., those associated with Down's Syndrome). Although the teacher of the two retarded listeners reported they had similar intelligence and verbal competence, observation and further investigation revealed otherwise. Although their full-scale scores of recent WISC-R administrations differed only by 11 points, their verbal subtest scores differed by 15 points (64 to 49), indicating that one of the retarded listeners was much more verbally competent than the other. Observations of these girls' performances during conversations with the subjects pointed to the same conclusion. One girl spoke more or less in complete phrases and responded relevantly to topic changes in the conversation; the other girl spoke telegraphically, in few words (usually a noun and verb or verb phrase), and did not shift topics easily. In terms of verbal competence, one of these girls is much higher functioning than the other. Therefore, the verbally higher functioning retarded peer

was designated HRP, and the lower functioning peer was designated LRP.

### Setting

The setting was a room in an integrated public elementary school. There were two bean bags on a carpeted floor, a TV, and colorful pictures on the walls to give the room a lounge-like appearance. The room was well-lit by permanent, elongated florescent lights. The TV set was on a cart that faced the bean bags. Another curtain covered the corner area that also faced the bean bags. This corner contained the video cassette recorder (VCR), video tapes, and a video camera attached to a tripod. Only the lens of the camera and the microphone protruded through a slit in the curtain. No other equipment or supplies were visible.

### Procedure

Each speaker was randomly paired with one peer, one retarded peer, and one younger child to form six dyads whose members remained constant throughout the study. Each speaker-listener dyad was videotaped for four sessions. One speaker was videotaped with one listener for 10 minutes each day resulting in two sessions with each subject per day. A different listener was used each day. Sessions were conducted 3-5 days per week.

### Familiarization Procedure

A five-minute familiarization session was conducted separately for each speaker-listener dyad immediately before the first probe session. During this session, the researcher first introduced herself, and then introduced the participants to each other by stating their name and the classes in which they were enrolled. She showed them around the room, pointing out the VCR, the camera, and so on. Next, she asked the subjects to sit and talk to each other and then left the room. Five minutes later, she reentered the room and began the first session.

### Probe Procedure

Each session involved two successive parts: a 10-minute viewing of a TV show designed to stimulate conversation, and a 10-minute videotaped conversation between subject and listener. Each TV clip was the concluding segment of a popular program (e.g., "Knight Rider," "A-Team," "Fall Guy," "Magnum PI"). Each segment included dialogue and considerable action, but no overt violence. A different segment was shown each day.

In each session, the researcher told the subjects they would see a part of a TV show, and that they should let her know when it was over by knocking on the door. At that point, she reentered the room, turned off the TV,

asked the subjects to remain seated on the bean bag chairs, clipped a small microphone to each one's clothes, and turned on the camera and VCR. She then told them they could "talk about the TV show or anything else," and that she would "be back when the time was up." After 10 minutes, the researcher reentered the room, turned off the equipment, thanked the subjects for their help, and escorted them to their respective classrooms.

### Data Analysis

All the sessions were videotaped and later analyzed according to the guidelines described in the Manual of Instructions for Identifying and Analyzing Linguistic Interactions (Bijou, Umbreit, Ghezzi, & Chao, 1986). This system of data analysis is based on J.R. Kantor's (1977) theoretical analysis of language, which he termed "psychological linguistics." In applying the guidelines, trained raters focused exclusively on the linguistic behavior of each speaker as she initiated interactions with each of the different listeners.

In accordance with Bijou et al. (1986), raters used the following four guidelines to identify the situations and responses that were counted as the subject's (A) linguistic initiations:

1. From a situation of silence (i.e., 5 seconds or more during which neither person speaks), A

introduces a referent that occasions a relevant referential or nonreferential response by the listener (B).

2. In the course of conversation, A introduces a referent different from that introduced by B that occasions a relevant referential or nonreferential response by B. In other words, A changes the subject of conversation and B reacts to it.
3. In a series of linguistic interactions, following an initiation by A, all of A's linguistic responses are identified as A's initiations until (a) B changes the referent, and A responds to it, or (b) a 5-second period of silence elapses.
4. During a conversation, A and B may agree to adhere to the plans or rules of a particular activity such as playing a game, adhering to parliamentary rules, limiting discussion to a particular topic, taking turns telling jokes, role playing, etc. If A initiates the plans or rules and B agrees, the episode is A's initiation. If B introduces the plans or rules and A agrees, it is not A's initiation. Within the agreed-upon format, regardless of who initiated it, all of A's initiations are identified according to guidelines 1-3.

Also in accordance with Bijou et al., the raters used eight additional guidelines to identify A's responses which did not qualify as initiations. Examples of the situations which did not qualify include: A makes a comment not followed by a relevant response by B. A responded to a referent initiated by B. B indicates she did not hear what A said, and the like.

Analysis of each session's 10-minute videotape was accomplished in two phases. First, a principal rater identified all the linguistic interactions initiated by the speaker (subject or A). Second, the raters analyzed up to 10 speaker-initiated interactions identified in the first phase of analysis. If there were 10 or fewer initiations, the rater analyzed all of them; if there were more than 10, the rater randomly selected 10 initiations for analysis.

Speaker-initiated interactions were analyzed according to four main categories: (a) the speaker's behavior; (b) the listener's behavior; (c) the referent; and (d) the secondary adjustments. Each category is described briefly below.

#### Speaker's Behavior

The rater recorded the duration of each of the speaker's initiations, noting to the nearest whole second the time elapsed when the speaker initiated an interaction

to when she stopped. In addition, each initiation was classified as verbal-vocal, gestural, or both.

#### Listener's Behavior

The rater classified the listener's (B) reaction to each initiation as narrative (entirely verbal-vocal, i.e., casual conversation), mediative (entirely manual or manipulative, i.e., performing a non-speech act on request), or a combination of both.

#### Referent

The rater categorized each initiation according to four general dimensions: (a) time frame (past, present, future, or none); (b) actuality (real or fictional); (c) content of the referent (references to self, the listener, either's family or friends, other people, school or non-school activities, objects, entertainment, etc.); and (d) feeling reactions (clear expressions of like, dislike, anger, or fear).

#### Secondary Adjustments

The rater examined each initiation to determine whether the speaker used language not only to communicate but also to achieve a secondary purpose, namely to amuse, persuade, support, punish, gain cooperation, or share. The function of these adjustments is based upon the behavior of the listener (e.g., she laughed).

### Inter-Rater Agreement

Inter-rater agreement was assessed by the same procedure described by Ghezzi et al. (1986). The procedure involved, first the identification of subject-initiated interactions (Phase 1 of the analysis), and second, the analysis of identified subject-initiated interactions (Phase 2 of the analysis). To determine agreement for initiated interactions, a second trained rater randomly selected one-third of the sessions rated by the principal rater, and a point-by-point comparison was made with the principal rating. Agreements were counted when both raters had identified the same initiated interaction.

Disagreements were counted when the second rater (a) did not identify an initiation that the principal rater had identified, or (b) identified initiation that the principal rater had not identified.

The sessions identified for subject-initiated interactions were used also for the analysis of interactions. For those sessions having more than 10 interactions (as identified by the principal rater), only those that were selected for analysis by the principal rater were analyzed by the second rater. When there were 10 or fewer interactions, the second rater analyzed every interaction.

A point-by-point comparison was made between the two ratings for the analysis of each subject-initiated interaction. In the case of initiation duration, agreement was counted when both ratings were within one second of each other; if the discrepancy was greater than that, a disagreement was counted. For all other measures, agreement was counted each time both raters checked the relevant items for each initiation. Disagreements were counted when the second rater (a) did not check an item that the principal rater had checked, or (b) checked an item the principal rater had not checked.

Agreements and disagreements were tallied and summed for each speaker-listener dyad and then inserted into the formula,  $\text{agreements} / (\text{agreements} + \text{disagreements}) \times 100\%$ . For identifying initiations, agreement ranged from 85-90% with a mean of 88% overall; agreements for the analysis of interactions ranged from 82-97%, with a mean of 90% overall.

## CHAPTER 3

### RESULTS

The different listeners for each subject are designated as nonhandicapped peer (NP), retarded peer (HRP or LRP), and younger nonhandicapped child (YC). For each subject, data are presented for frequency and duration, modality, referent, secondary linguistic adjustments, and the listener's response.

Because there were no systematic trends, the data are presented as averages or percentages in bar graphs or tables.

#### Julie

Average Frequency and Duration. The left side of Figure 1, shows the average number of interactions initiated by Julie; the shaded portions indicate the average frequency of Julie's attempted initiations that received no response from the listeners. The right side shows the average duration of her initiations. Julie averaged the greatest number of interactions (21) with HRP (only slightly above NP), fewest (18) with YC and an intermediate number (20) with NP. The average duration of

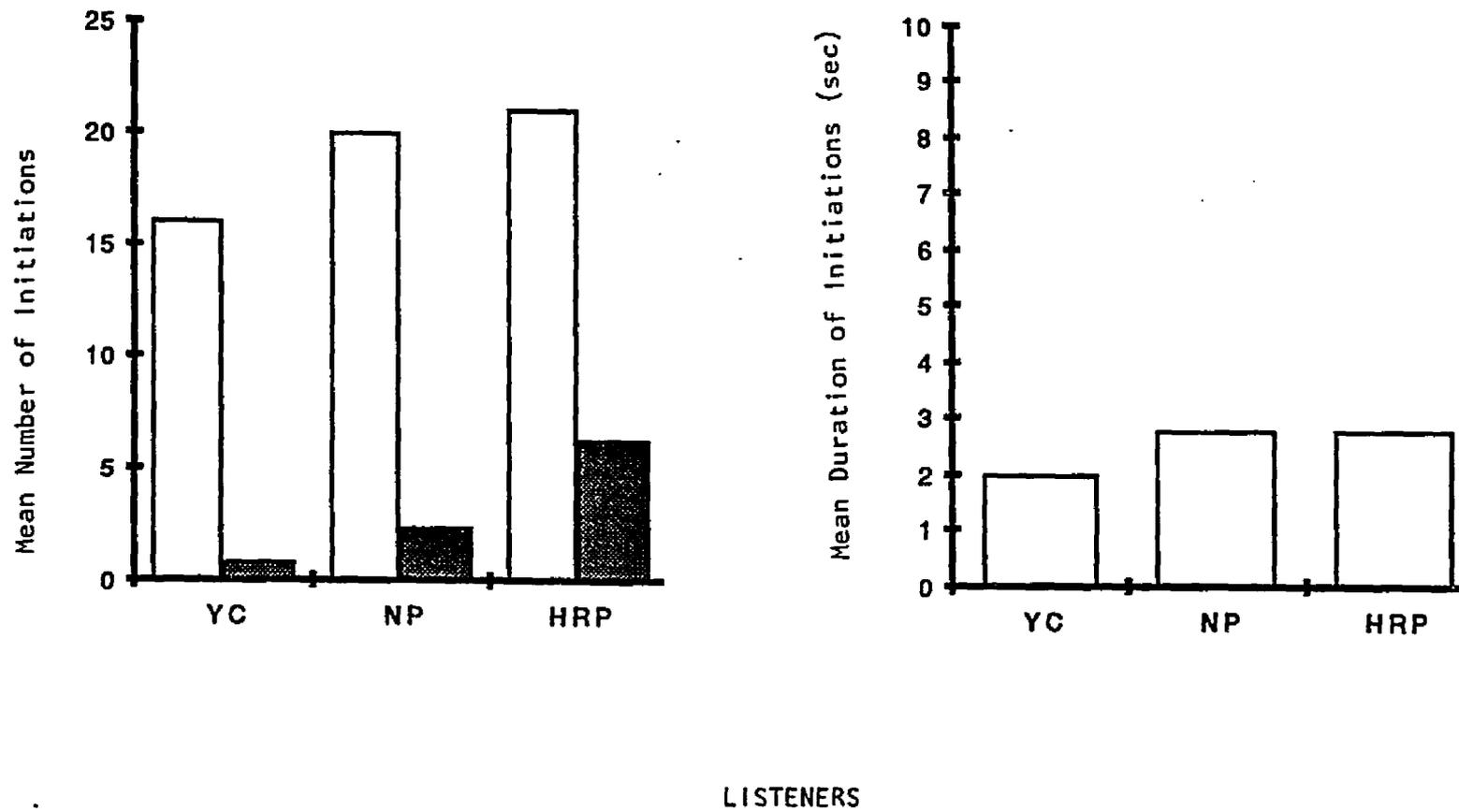


Figure 1. Julie's mean number of initiations and attempted initiations (left side) and average duration per initiation (right side) with each listener.

her initiations were equally long (2.8 sec.) with NP and HRP and shortest (2.0 sec.) with YC.

At times, Julie initiated an interaction (that satisfied all of the criteria) to which the listener did not respond at all. In these cases, no interaction was counted; however, a separate count of the "attempted" initiations was recorded. Across the four sessions with each listener, this situation occurred at relatively low average frequencies (2.25 and .75, respectively) with NP and YC, but at a much higher average frequency (6.25) with HRP.

Modality. Table 1 shows that most of Julie's interactions with each listener were initiated verbally-vocally (90%-92%). All of the others (10% or less) were a mixture of both verbal-vocal and gestural behaviors. The highest percentage of Julie's concurrent behavior, most of which was manual, occurred with HRP (52%). A lower percentage (40%) occurred with both NP and YC.

Referent. A large percentage (87%-97%) of Julie's initiations with all three listeners involved no specific time frame. When she did specify a time frame with NP or YC, it was about the past (roughly 50%) or the present (roughly 50%). When she specified a time frame with the HRP, it was about the past (100%).

Table 1. Julie: Mean percentage of Julie's responses with each listener from modality, referent and secondary linguistic adjustment.

	<u>YC</u>	<u>NP</u>	<u>HRP</u>
<u>Speaker</u>			
Vocal (V)	92%	90%	90%
Gestural (G)	---	---	---
V & G	7%	10%	10%
<u>Listener</u>			
Narrative (N)	100%	100%	100%
Mediative (M)	---	---	---
N & M	---	---	---
<u>Referent</u>			
Past	2%	7%	2%
Present	2%	5%	--
Future	--	--	--
Real	100%	92%	97%
Fictional	---	7%	2%
Speaker	25%	32%	17%
Listener	42%	50%	62%
Other			
People	2%	17%	5%
Objects	15%	15%	10%
Activities	50%	40%	85%
Feeling	( 2%	--	10%)
Sec. Adj's.	5%	10%	--

Virtually all of Julie's initiations with all listeners concerned real people, objects, and activities. Almost half of Julie's initiations with the listeners involved references to the listener or the listener's family and friends. References to herself or her family and friends were less uniform: 32% with NP, 25% with YC, and 17% with HRP. When Julie talked to NP, she referred to people other than herself, the listener, or either's family and friends in 17% of the initiations. This percentage of initiations was more than three times the percentage seen with HRP (5%), and roughly eight times the percentage with YC (2%).

While references to activities were present in a relatively large percentage (85%) with HRP, half of Julie's initiations with YC and 40% with NP concerned activities. Within this category, 67% of the activities discussed with HRP involved entertainment and 21% involved sports and recreation. Entertainment was also the predominant referent with both NP and YC (69% and 70%, respectively).

Secondary linguistic adjustments. Secondary adjustments occurred in relatively small percentages with NP and YC (10% and 5%, respectively). All secondary adjustments involved the use of amusement (e.g., telling funny stories). No secondary adjustments were evident in Julie's conversations with HRP.

Listener's response. All of the interactions with each listener were narrative. During these interactions, the percentage of the listener's concurrent behavior, most of which was manual, was highest with NP (47%), lowest with HRP (79%), and intermediate with YC (25%).

### Sandy

Average frequency and duration. As shown in Figure 2, the average number of interactions initiated by Sandy was greatest when she spoke with YC (20), intermediate with NP (17), and lowest with LRP (11). On the average, the duration of her initiations was longest (3.85 sec.) with NP, shortest (1.7 sec.) with LRP, and intermediate (3.0 sec.) with YC.

Sandy's "attempted" initiations of a referent occurred at relatively low average frequencies (2.25 and 1.75, respectively) with NP and YC, but at a relatively high frequency (6.5) with LRP.

Modality. As shown in Table 2, Sandy initiated the highest percentage of interactions verbal-vocally with all three listeners: 92% with YC, 83% with LRP, and 70% with NP. All other interactions involved a mixture of both verbal-vocal and gestural behaviors. Sandy's concurrent behavior (mostly manual) occurred in similar percentages with each listener: 47% with YC and with NP, and 42% with LRP.

Referent. For the most part, Sandy's initiations

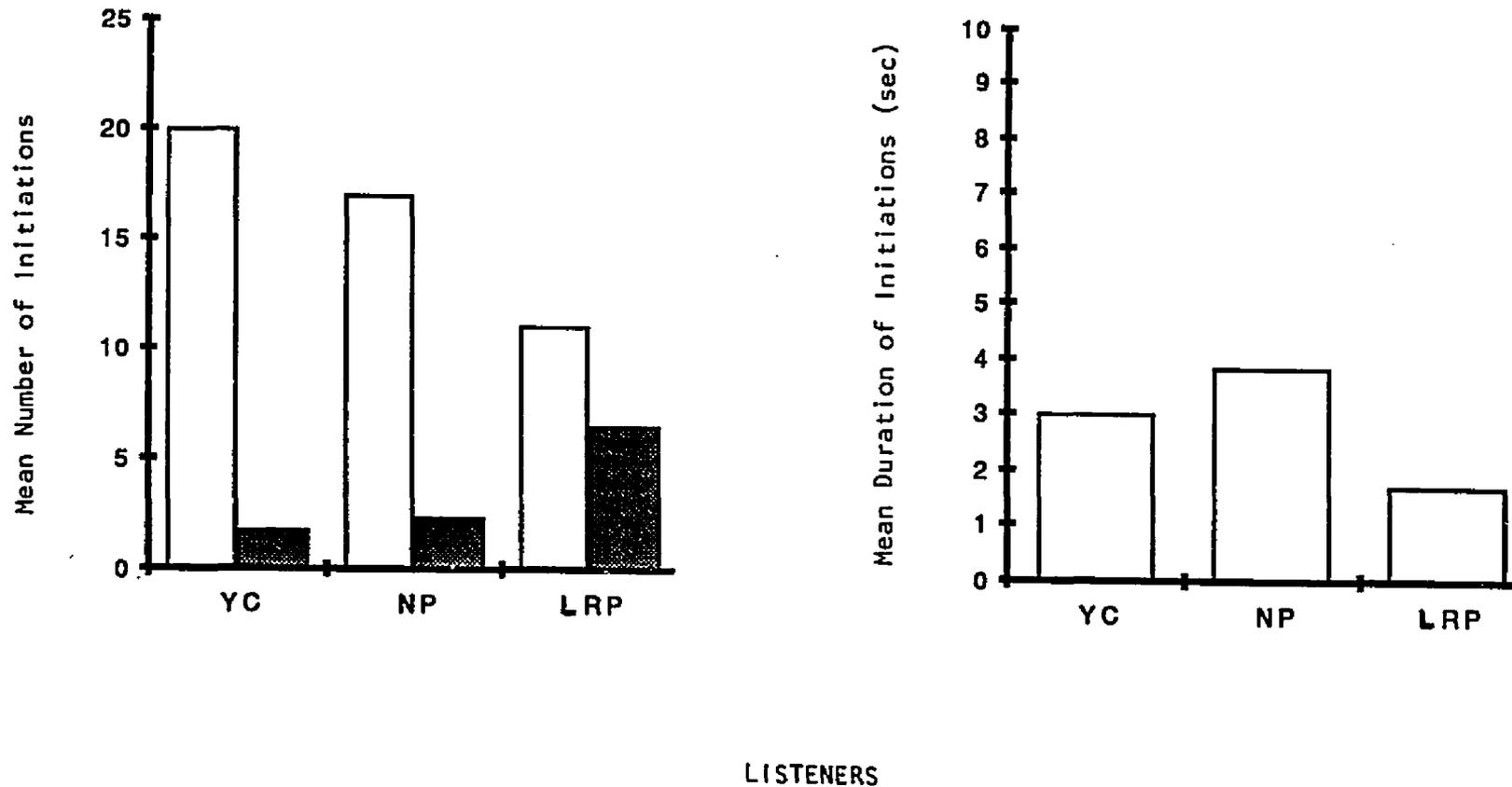


Figure 2. Sandy's mean number of initiations and attempted initiations (left side) and average duration per initiation (right side) with each listener.

Table 2. Sandy: Mean percentage of Sandy's response with each listener from modality, referent, and secondary linguistic adjustments.

	<u>YC</u>	<u>NP</u>	<u>LRP</u>
<u>Speaker</u>			
Vocal (V)	92%	70%	83%
Gestural (G)	--	--	--
V & G	8%	30%	17%
<u>Listener</u>			
Narrative (N)	90%	95%	94%
Mediative (M)	7%	5%	6%
N & M	3%	--	--
<u>Referent</u>			
Past	---	---	---
Present	15%	---	3%
Future	---	3%	---
No Time Frame	85%	97%	97%
Real	95%	100%	92%
Fictional	5%	---	8%
Speaker	40%	67%	28%
Listener	55%	30%	50%
Other People	8%	35%	3%
Objects	40%	27%	31%
Activities	17%	40%	20%
Feeling	6%	2%	---
Sec. Adj's	12%	15%	8%

time frame was specified, it was most often with YC and about the present (75%).

Virtually all of Sandy's initiations involved real people, objects, and activities. Sandy referred to herself (which include specific references to herself, family, and friends) in 67% of her initiations with NP, 28% with LRP, and 40% with YC. In contrast, 30% of her initiations with NP involved references to the listener and the listener's family and friends), whereas 50% with the LRP, and 55% with YC involved the listener. (Interestingly, Sandy initiated the same referent in 20% of all interactions with LRP.)

Initiations involving other people occurred in much greater proportion with NP (35%) than with LRP and YC (3% and 8%, respectively). With the YC, 40% of Sandy's initiations concerned inanimate objects. A slightly smaller percentage of her initiations with NP and LRP (27% and 31%, respectively) concerned objects.

Nearly half (40%) of Sandy's initiations with NP involved activities, whereas references to activities with LRP and YC were present in much smaller percentages (20% and 17%, respectively). When Sandy spoke to NP about activities, 47% of these involved academic school activities and the other half was almost evenly divided between sports and recreation (23%) and nonacademic

activities (29%). Academic activities also were the predominant referent when activities were mentioned with LRP and YC (37% and 57%, respectively).

Secondary linguistic adjustments. Relatively small percentages of secondary adjustments occurred with all three listeners. When these adjustments did occur, all involved amusing the listeners (e.g., telling funny stories).

Listener's response. Most of Sandy's interactions were narrative (90%-95%). While interacting with Sandy, all three listeners engaged in concurrent behavior at fairly similar levels: NP = 35%, LRP = 33%, and YC = 22%. Of these, approximately 97% were manual and the rest were bodily concurrent behaviors (i.e., wiggling leg, tapping foot, etc).

Many times, in conversations with LRP Sandy repeatedly introduced one or two particular referents, namely, bears or Star Wars toys. Furthermore, the data indicate that in all four sessions, regardless of Sandy's initiated referent, LRP successfully completed an interaction, and then redirected the conversation to one of these two referents. For example,

Sandy: "You know what I want?"

LRP: "What?"

Sandy: "I want money."

LRP: "I want Star Wars Men."

### Summary

Differences in Julie's communicative adjustments toward each listener were much less apparent than they were with Sandy and her listeners. Julie's average number of interactions with each listener was roughly the same. In contrast, Sandy's average number of interactions across listeners revealed some differences between NP and LRP and YC and LRP. A similar pattern occurred with the average duration of initiations. The durations of Julie's initiations with each listener were virtually the same; the average duration of Sandy's initiations showed a different pattern -- Sandy talked much less with LRP than with either NP or YC.

The only consistent pattern across the two speakers came with respect to "attempted" or "failed" initiations, those in which the listener made no response. With both speakers, "attempted" initiations occurred about three times as often with the respective RP listener than with either of the NP or YC listeners.

Most interactions initiated by the speakers were verbal-vocal and manual concurrent behavior was prevalent. The speakers' initiations usually involved real persons, activities, and objects without a specific time frame.

Across all three listeners, Julie initiated more interactions about the listener than about herself. In

herself with NP, but generally initiated interactions about the listener with LRP and YC. Interestingly, Sandy initiated the same referent with LRP in 20% of all interactions. In general, the speakers' initiations with LRP, HRP and YC involved the listener. When either speaker conversed with NP, initiations about other people occurred in much greater proportion than at any other time.

Over half of Julie's initiations involved activities. When she initiated interactions about activities, they usually were about entertainment. Less than half of Sarah's initiations with the NP were about activities. Of these, academic activities were discussed the most. Interestingly, Sandy spoke about school-related activities (academic and nonacademic) three-fourths of the time when activities were mentioned with NP.

More interactions were narrative and some concurrent behavior occurred with all listeners. The data indicate LRP often introduced one of two referents of interest to herself, regardless of Sandy's initiated referent.

For both speakers, feelings were seldom expressed. Likewise, relatively few secondary adjustments were present; when they did occur, most were in conversations with NP and involved some form of humor.

## CHAPTER 4

### DISCUSSION

The results suggest that the communicative adjustments of the preadolescent girls are influenced by the developmental ability of the listeners and, to a lesser degree, their age. The varying developmental level of the listeners seemed to diminish the influence of age on the speakers' communicative ability (something previous studies have not pursued), the findings are somewhat consistent with the data reported in studies of either age or developmental ability in isolation.

Although both speakers initiated and sustained a similar amount of interactions with the NP and YP, their speech to their respective RP listeners differed considerably. Julie spoke to HRP much like she spoke to NP; in contrast, Sandy spoke to LRP much less often and in shorter durations than when she spoke to NP or even to YP.

Despite any hard evidence, the investigator noted a certain "tonal quality" in the voices of both speakers when they addressed the RP listeners. They used more "attention-getting" words and a "singsong" tone in their voices (much like the tone used when talking to an infant

or small child) than when speaking to the other listeners. This tonal quality occurred more often with LRP than with HRP. In addition, both speakers talked with the respective YPs in much the same way as they talked with the respective NPs, and changes in "tonal quality" were observed with either the NPs or the YPs.

When interacting with the speakers, the two RPs responded much differently. HRP's responses seemed to flow with the conversation from one topic to another. She demonstrated appropriate listening skills (e.g., "uh huh," "um," "yeah"). In comparison, LRP stuck to one or two topics (bears and Star Wars toys) throughout all four sessions and talked about each many times, regardless of the topic Sandy initiated. Also, the investigator noted that HRPs' responses were longer and more complete (although louder than appropriate) than the LRP's responses. The HRP also demonstrated knowledge of appropriate "pre-teen lingo," LRP's speech was much more primitive, almost telegraphic, while the lower functioning RP was clearly at the "baby-talk" as she used just subject and verb phrases to express herself.

In addition to noting how HRP and LRP responded, a tally was made to identify whether or not they responded at all to an initiated referent. The proportions of "no

responses" from both RPs was considerably higher than for either the NPs or YPs. This suggests that, although HRP was verbally more adept than LRP, both were still less sophisticated in sustaining linguistic interactions than even the YPs.

It is important to discuss some of the differences between this and previous studies. For instance, in the studies by Shatz and Gelman (1973) and Sachs and Devin (1976) the ages of the subjects and listeners were preschool and younger, a time when linguistic development is rapid and changing drastically, month by month. In such studies, language differences are likely to be more pronounced than the language differences among school-age children (6 to 11 years) whose language skills are already quite sophisticated by the time they enter first grade.

The study by Ghezzi et al. (1986) included adults as listeners along with the NPs and six-year-old YPs. Although they reported age-related differences with older subjects, the most notable differences were between adults and YPs; differences between NPs and YPs were much smaller and very similar to those reported in the present study.

Given the previous data and the present findings, it appears that, with school-age children, the listener's developmental level has more influence on communicative

adjustments than the listener's age. It would be of interest to investigate the influence of much younger and much older listeners.

The data reported by Guralnick and Paul-Brown (1977, 1980, 1984, 1986) certainly are consistent with the findings in the present study. Guralnick and Paul-Brown used much younger children (as in the "age studies") and the degree of familiarity between speakers and listeners was much greater than in the present study. yet, the results are very similar: speakers modified their linguistic behavior in relation to the listener's developmental status. In the present study, this was especially apparent when Sandy spoke with LRP. It would be of interest to explore whether the influence of a listener's developmental status on a speaker's linguistic behavior is dependent on any age boundaries at all.

In future studies of this sort, certain points might be considered. Screening the verbal competence of subjects might be accomplished by a combination of observation or interview and screening test measures. In the absence of any particularly appropriate instruments, the verbal subtest scores from an IQ test are usually available and probably as meaningful as any other test information.

Furthermore, the behavior of both members of each dyad could be analyzed as each takes the roles of speaker and listener. This would result in a more interactive analysis.

Variations of the present study might help provide a better understanding of the social-language interactions among children. Future studies might use four listeners rather than three and include normal adults with the YPs, NPs, and RPs. Other variations would be to use much younger children for the YP listeners (e.g., 2-, 3-, or 4-year-olds). Varying the ages and developmental status of speakers, to include RPs, might be explored as well.

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