

## **Interaction between Mothers and Children with Autism**

**Ms. Geetha Pujari, B.Sc. (ASLP), M.Sc. (ASLP)**  
**Mr. Nadiminti Karena, B.Sc. (ASLP), M.Sc. (ASLP)**  
**Dr. Sudheer Bhan, Ph.D. (Linguistics)**

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### **Abstract**

**Aim:** To investigate interaction of Telugu mothers with their Autistic children in the city of Hyderabad, India.

**Method:** This study consists of 30 mother-child dyads. Among them (mothers) 19 mothers participated in both audio and video tasks, whereas 11 mothers only had audio recording task. Their age range was 25-45 and educational qualification range from intermediate to post graduate. Out of 30 mothers, 14 were trained in applied behaviour analysis (ABA). The Autistic children were assessed and diagnosed on the basis of ADOS (autism diagnostic observation schedule).

**Results and Discussion:** Speech and Interaction of Telugu speaking mothers with their Autistic children reflected deficiencies to a larger extent. Autistic mothers used relatively more simple sentences than compound. Most Autistic mothers took very less turns during interaction and no reciprocal turns were generated from Autistic children.

**Summary and Conclusion:** Very significant number of mothers of Autistic children used proximal pointing during their communication with their words. Majority of mothers had very low rate of speech in both audio and video tasks. Very few mothers had high rate of speech. Autistic mothers were very balanced in their conversation with their wards (children's) i.e. neither less demanding nor more demanding in conversation.

**Key Words:** Autistic, Mother-Child Interaction, Autistic Mothers.

### **Introduction**

Autism is a psycho-neurobiological condition that affects a person's ability to communicate and interact with others. Some of the Autistic children seem to be engrossed in their own world or self

and have no desire to reach out or contact other people. It is derived from GREEK word auto, which means self. These children are always withdrawn in their own self and hardly socialize. The interaction of mothers with their Autistic children is inadequate and deficient, which results in impaired communication and socialization among them. Present study investigates into interaction of Telugu mothers with their Autistic children in the city of Hyderabad, India.

## **Motherese**

The way mothers talk to babies is instinctive. When mothers or adults come across a gurgling infant (whether their own or someone else's), they begin to speak in a slow, high pitched and highly intonated manner, repeating the simple words again and again. It is often accompanied by exaggerated facial expressions. It is known as motherese. The high intonation and use of simple words with repetition makes it easier for babies to distinguish the different parts of speech, the contrast between syllables is enhanced by the very large swings in pitch; whilst speaking slowly makes it easier for babies to process speech, since babies' process auditory information at half the rate than adults do. Loudness also makes it easier for babies to distinguish a person's voice from the background of other noise, since their hearing is less sensitive than that of older children's and adults.

Mothers are the perfect way to grab a baby's attention and let it begin to learn the rudiments of language. This initial preference is then reinforced by the fact that motherese is usually accompanied by other rewarding stimuli, such as positive facial expressions, physical contact and other forms of affectionate behaviour. In every culture across the globe, babies first begin to smile at about two months, even if they are born blind and cannot see who they are smiling at. These smiles are proper social smiles, produced in response to particular stimuli. Before this, babies often smile spontaneously, but these smiles are unrelated to any particular emotional state, being mouth-only smiles, caused by the spontaneous firing of neurons in the baby's brainstem. The social smiles that begin at two months of postnatal age are real smiles. They involve a specific muscle near the eye, the orbicular ocular, which cannot be controlled voluntarily. The feedback between babies and their carers means that this instinctive smiling behaviour is soon modified by learning. When a parent receives a smile from its new offspring, this leads to an increase in parental attention as they attempt to induce their baby to produce another of these rewarding stimuli. Similarly, to touch and vestibular stimulation, there is evidence to suggest that motherese is good for babies' development.

## **Mother - Child Interaction in Autism**

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Autistic children's mothers communicate with them in a manner, which is linguistically and pragmatically deficient. They don't use eye contact, turn taking and other pragmatic behaviours in the same way as mothers of normal children do. This leads to impaired communication and socialization ability in Autistic children.

### **Social Relationship**

People with Autism may appear indifferent to other people. They may be formal, sticking rigidly to rules about social relationships. Their actions may be considered odd, rude, naughty or insulting, although this was not what they meant. They can also be very trusting and naive. This can make them vulnerable to people, who may wish to take advantage of them or ridicule or bully them.

Their social behaviour is also marked by following problems-unresponsiveness to people, treating parts of people as detached objects, lack of eye contact, treating people as if they were inanimate objects, lack of behaviour appropriate to cultural norms, attention to non-social aspects of people – lack of awareness of feelings of others. Problems in social relationship are at their most severe before the age of 5 years and include an impairment of eye to eye gaze and attention, social attitudes and cooperative play. An Autistic child is rarely able to establish animate and emotional relationships.

### **Verbal and Nonverbal Communication**

During infancy, Autistic children may be extremely passive babies requiring some attention or they may be irritable, difficult to feel, have irregular sleep patterns and resist cuddling. As young children, they appear to be socially aloof, seemingly unaware of the presence or feelings of others. Some of them are overly and inappropriately affectionate even with strangers.

Communication of Autistic children is marked by delay in language, failure to initiate speech and respond to, when called by name, repeated questioning and purposeless remarks. They may repeatedly ask the same question in an obsessive way and do not stop, when told the same answer or told that they already know the answer. They use stereotypic language, repeated rhymes or jingles with no clear communicative function. They cannot engage in reciprocal communication.

Autistic children's speech is monotonous and hyper-nasal. They have difficulty in modulating their own voice. Many Autistic children have impaired comprehension of language. Some may exhibit verbal auditory agnosia or word deafness.

Autistic children have high incidence of echolalia or pathological repetition of what is said by other people. They may perseveringly repeat a word or the last several words of a sentence just heard or heard over a long period of time – immediate and delayed echolalia. They have pronoun reversal. (May use you, when they mean “I”) instead of saying “I have been swimming today”, they will say “you have been swimming today”. Some of them have hyperlexia-a spontaneous early ability to read often at age 2 ½ or 3.

A key symptom of Autistic children is insistence on sameness and aloneness. There are reports that some Autistic children refuse to have their clothes changed. Many will eat only a limited selection of food and may drink from the same glass. Any change or upset in Child’s established routine leads to violent temper tantrums that can be stopped only by the return of the routine.

## **Method**

This study consists of 30 mother-child dyads. Among them (mothers) 19 mothers participated in both audio and video tasks, whereas 11 mothers only had audio recording task. Their age range was 25-45. Their educational qualification ranged from intermediate to post- graduate. Out of 30 mothers, 14 were trained in applied behaviour analysis (ABA). Out of these 14 mothers, 10 were from earlier batch and four from the present batch (2015-2016). The Autistic children of present study were assessed and diagnosed based on ADOS (autism diagnostic observation schedule).

**Procedure:** The study was conducted in Autism supportive school, Miyapur. Hyderabad, Bhuvana’s speech and hearing clinic, Amirpet and AYJNIHH, SRC, Secunderabad. Both mother and children were seated opposite to each other around a table. All the toys, objects belonging to lexical categories of animals, fruits, vegetables, vehicles, colours, body parts and general objects like spoon, glass, scissor, cup, pencil, chair, table etc were placed on the table. Mothers were asked to play with children and simultaneously interact with them. This mother – child interaction was both audio and video recorded. However, some of the mothers objected to video recording, hence only 19 mothers had both audio and video task. 11 mothers had only audio recording. After data collection, the data was transcribed and analysed.

## **Aims and Objectives**

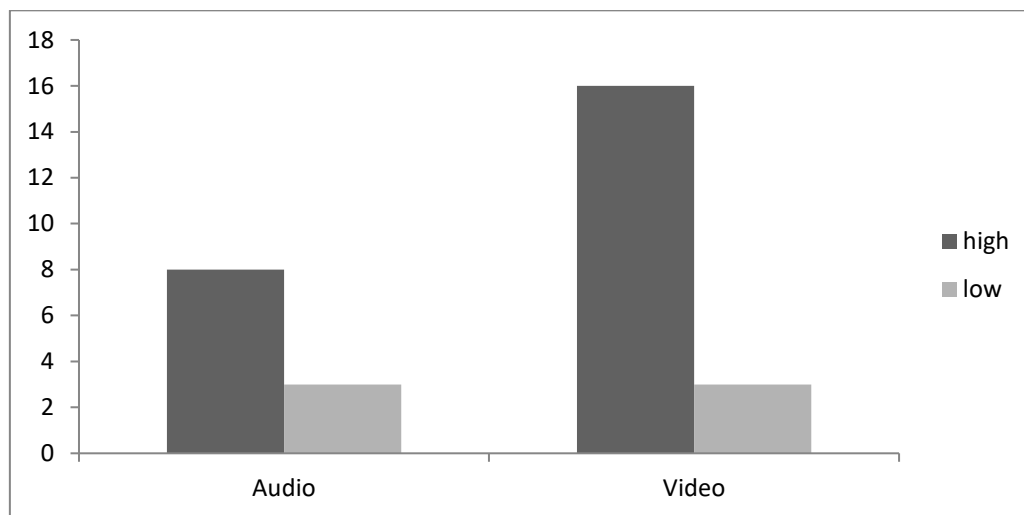
- To find out whether mothers with training in applied behaviour analysis are better interactors compared to those without applied behaviour analysis training.

- To find out whether mother-child interaction results in better communication in Autistic children.
- To find out how Autistic children react to mothers' verbal communication.

## Results and Discussion

Mother-Child interaction is a significant factor for developing language and communication among normally developing children. This interaction is impaired to a greater extent between Autistic children and their mothers. Following are the aspects of mother- child interaction observed in Telugu mothers of Autistic children in present study.

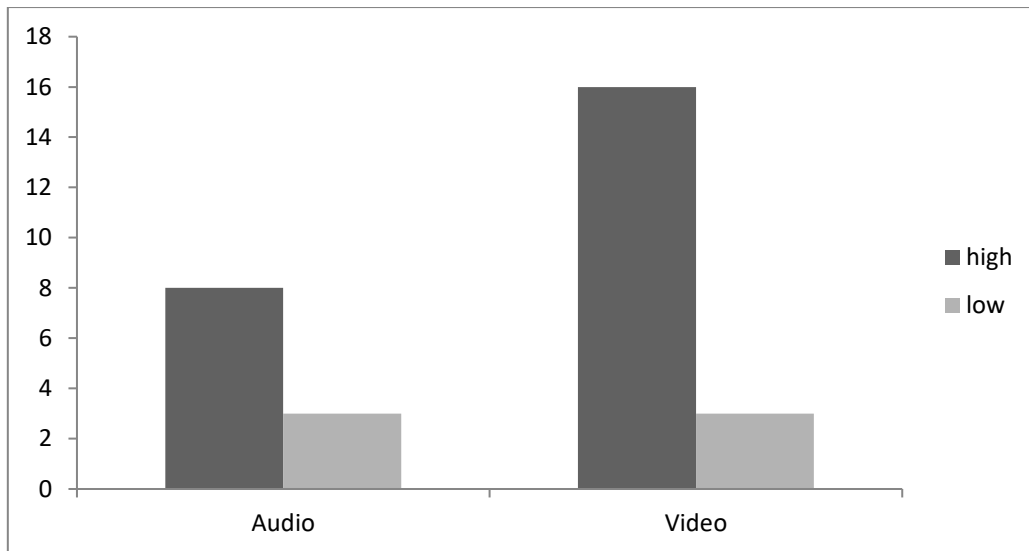
### Proximal pointing



Communication of a proximal pointing gesture, i.e., saying what is that, while pointing to an object is particularly effective in leading children to respond with speech. In proximal pointing task in the present study, significant numbers of mothers used prompts during video and audio recording. (Video - 63.15% with prompts, 36.84% without prompts. Audio – 63.6% with prompts, 36.3% without prompts).

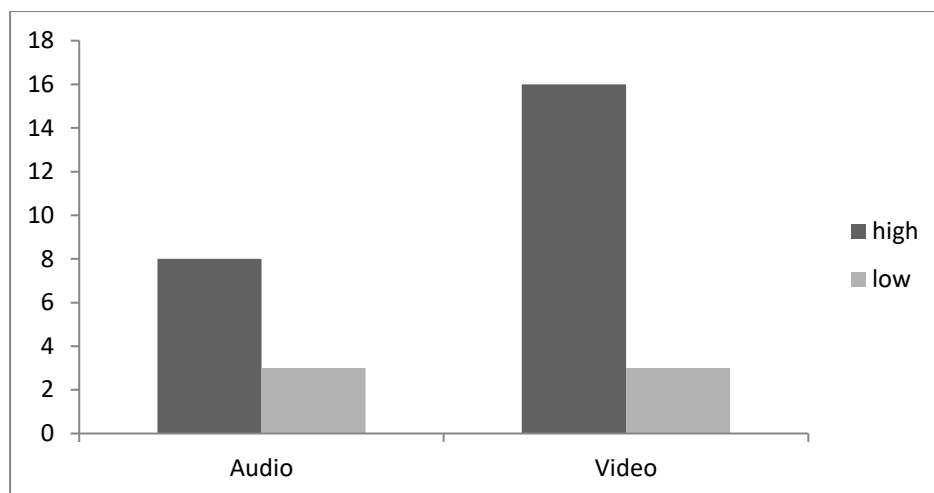
Laura J. Hahn's (2014) study with mothers of Fragile -X syndrome revealed that proximal pointing in comparison to other gestures evokes more responses from children with Fragile- X syndrome – present study confirms the same.

### Rate of Speech



There was a highly significant difference in terms of rate of speech among Autistic mothers. It was very low in both audio and video tasks. Low rate of speech was seen more in video task than audio task (rate of speech video 26.31% high, and low 3.68%, in audio rate of speech was .36 36% for high and 63.63% for low). Freeman, F.J., Meyers, S.C. (1985) study indicates that mothers of stutters talked significantly faster to all children. The slower the child talked during fluent speech, the faster the mother interacting with him talk. Results indicated an interactive and complex relation between mother and child speech rates. present study does not agree with these findings, as mothers of Autistic children had very low rate of speech, whereas stuttering mothers had faster rate of speech while interacting with their children.

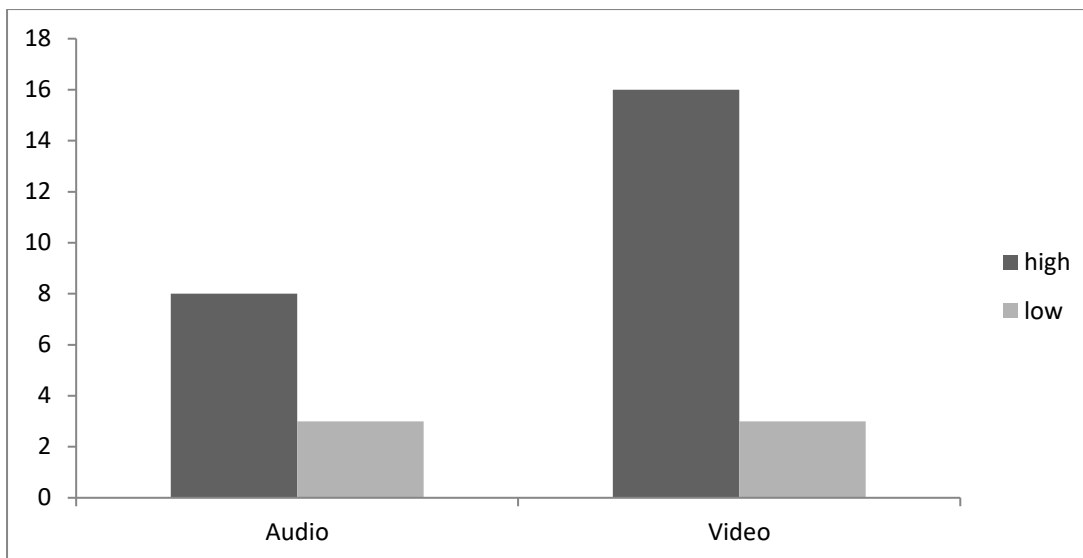
## Demanding



There were no significant differences in the demanding pattern among mothers of Autistic children (verbal and non verbal). This indicates that Autistic mothers were less demanding in terms of conversation with their children (demanding in video 47.36% was high and 52.63% was low and in audio 45.45% was high and 54.54% was low).

Walton KM's (2013) study indicates mother's use of demanding language was most likely to elicit appropriate expressive speech in both children with Autism spectrum disorder and normal children. Mother's use of orienting cues conferred an additional benefit for expressive speech production. Our study agrees with Walton's study, as highly demanding autistic mothers resulted in more interaction with their children.

## Turn-taking

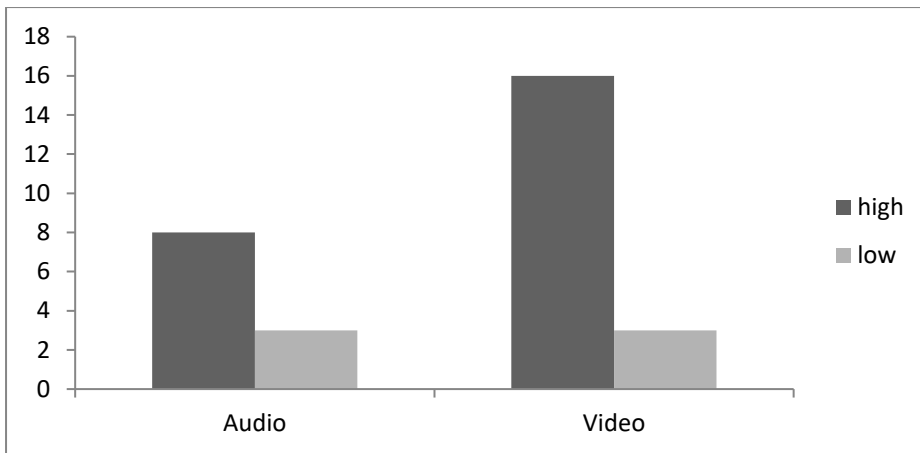


Turn-taking was significantly impaired in mother-child interaction of Autistic mothers. Number of mothers who took very less turns during interaction was significantly very high in both video and audio tasks (vide 32.5% more and 68.4% less, audio more 36.3%, less 63.6%). Mothers took turns, but there were no reciprocal turns by autistic children.

This study contradicts Singh, S. J (2015) study on pre-symbolic children with Down syndrome and Cerebral palsy children and their siblings. In Singh's study mothers created a more facilitative communicative environment for children by directing high rate of initiations towards them and by taking turns that paved the way for the children's next turn. This indicates that turn taking behaviour of autistic mothers is very deficient and they very rarely allow children to take turns during interaction.

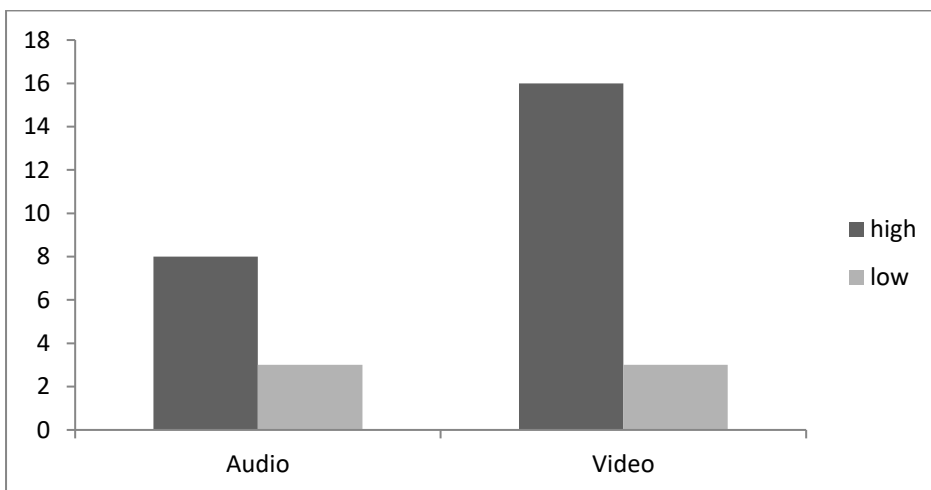
## Use of Sentences





There was a high significant difference in terms of use of sentences among Autistic mothers in both audio and video tasks (in video 89.47% was simple and 10.52% was compound and in audio 81.81% was simple and 18.88% was compound). Mother's used more simple sentences compared to compound sentences.

### Child Vocalization



There was a high level of significance in child vocalization. Most of the children used less vocalization in both audio and video tasks. (In video 36.84% was more and 63.15% was less and in audio 36.36% was more and 63.63% was less). This might be due to less turn taking and less demanding behaviour of Autistic mothers.

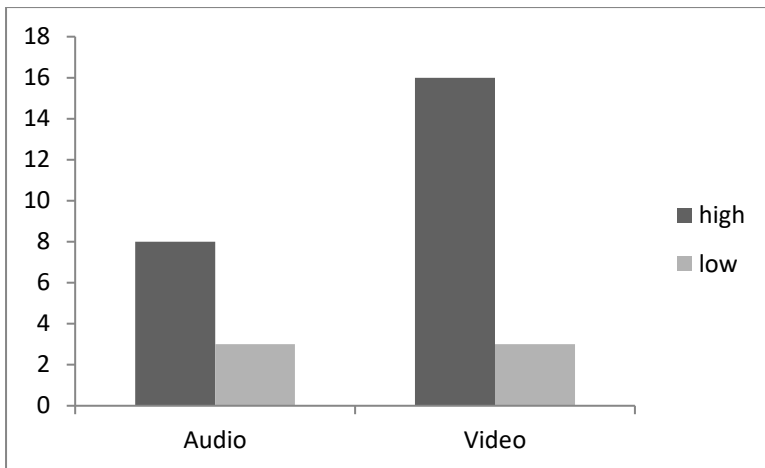
### Mother-Child Participation

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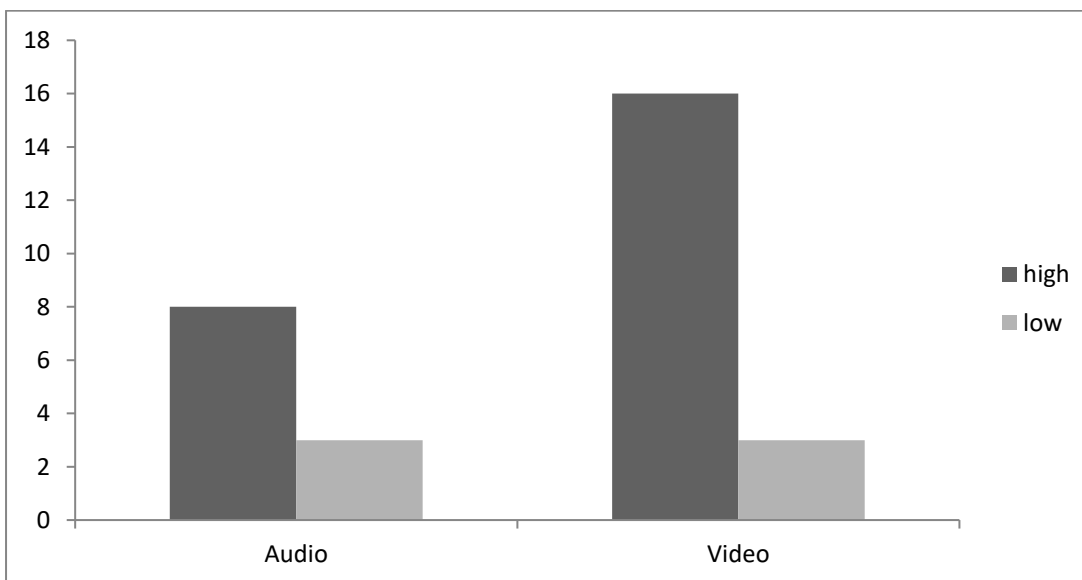
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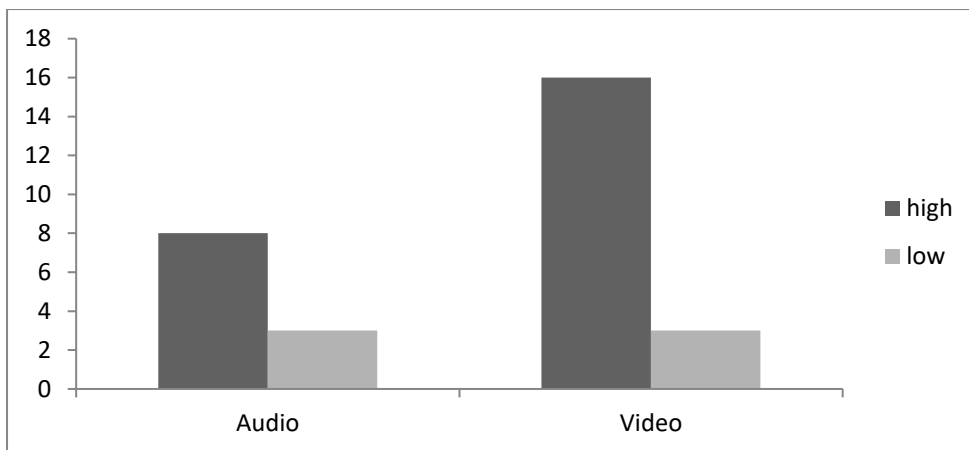
There was more unequal participation by mothers rather than equal participation (in video 21.05% was equal and 78.94% was unequal and in audio 36.36% was equal and 63.63% was unequal).

### Diminutives



There was a less significant level of diminutives in both audio and video tasks by both mothers and children. Mothers in present study hardly used diminutives, as shown in audio task. Autistic children of present study had more diminutives compare to their mothers. However, difference between mothers and children's use of diminutives was not very significant. (In video 52.63% was yes 47.36% was no and in audio 54.54% was yes 45.45% was no).

### Topic Initiation



In the present study, topic initiation was very clearly reflected in mother child dyads. Except three mothers, all others initiated the topics (total mothers 19) in both audio and video context. There was highly significant difference between the mothers who initiated the topics and others who did not initiate. Topic initiation was only verbal; no nonverbal behaviours were seen in topic initiation context in both audio and video tasks. (In video 84.21% was high 15.78% was low and in audio 72.72% was high 27.28% was low).

Autistic children are impaired in their communication, socialization and imagination. The way mother's interact with these children have a significant impact on their communication.<sup>30</sup> Telugu speaking mothers who formed part of this study, their speech and interaction with their Autistic children reflected deficiencies to a larger extent. Autistic mothers used relatively more simple sentences than compound. In this respect, their communication is like other mothers of normal children. However, most Autistic mothers took very less turns during interaction and no reciprocal turns were generated from Autistic children. At the same time, they were less demanding in their conversation with children. These two behaviours of Autistic mothers get correlated with less vocalization by Autistic children. They vocalized less, because mothers had lesser number of turns and less demanding behaviour during conversation. However, use of proximal pointing by a significant number of mothers reflects their eagerness to develop language and communication in their Autistic children. There is an interactive and complex relation between mother and child speech rates. If rate of speech is high, children reciprocate with more language and communication. Mothers in the present study had very low rate of speech. This again is an indicator of less communication in Autistic children. Diminutives help mothers to initiate speech in children Autistic mothers hardly used diminutives. It reflects again their communicative impairment. But Autistic children of present study had relatively more diminutives in their speech than their mothers. It was mothers who initiated the topic in both

audio and video tasks. In this aspect, they (topic initiation) are like mothers of normal children. All these aspects indicate that mothers of Autistic children were impaired in their communication behaviour to a great extent, and this resulted in deficient communication among Telugu Autistic children.

## Summary and Conclusions

Present study explores mother-child interaction in Autistic mothers. Except, one child all others in the study were verbal. Mothers were Telugu speakers. Some of them were just intermediate, whereas others had higher qualifications. One was even an MBBS doctor. Research was carried out on their interactional behaviour with their Autistic children. These mothers were assessed on following parameters of interaction during audio and video recordings Proximal pointing, rate of speech, demanding-behaviour, turn taking, use of sentences, Children's vocalization, mother- child participation, diminutives, topic initiation and maintainance. 19 mothers had both audio and video recording, whereas 11 mothers participated only in audio recording. 14 mothers were trained in ABA (applied behaviour analysis) whereas 16 others were not. Mothers trained in ABA had more interaction than those who were not.

## Conclusions

1. Very significant number of mothers of Autistic children used proximal pointing during their communication with their wards.
2. Majority of mothers had very low rate of speech in both audio and video tasks. Very few mothers had high rate of speech.
3. Autistic mothers were very balanced in their conversation with their wards (children's) i.e. neither less demanding nor more demanding in conversation.
4. Number of mothers who took very less turns while talking to their Autistic children was very high in both audio and video tasks.
5. Mothers usually used simple sentences while talking to their children. Their use of compound sentences was very rare.
6. Most of the children were less vocal in their conversation with mothers. This can be correlated with mother's performance in terms of proximal pointing, demanding, turn taking and use of sentences. Since they were themselves deficient in these tasks, they could elicit very less vocalizations from children.

7. There were very few mothers, who had equal amount of participation in conversation with their children.
8. Topic initiation by mothers was only verbal and not non- verbal. Majority of mothers (except three) initiated topic during conversation. Topic initiation was almost normal in mother's interaction with the Autistic children.
9. Children used very few diminutives while conversing with mothers (1 or 2 diminutives ranging between 1 and 6). Use of diminutives by mothers was equally seen in both audio and video tasks. Half of them used diminutives than half not. Children used more number of diminutives than mothers (6 mothers versus 8 children's).

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Ms. Geetha Pujari, M.Sc. (ASLP)

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Dr. Sudheer Bhan, Ph.D. (Linguistics)

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Audiologist & Speech Therapist  
Government District Hospital  
Anantapur 515001  
Andhra Pradesh  
India  
[geethapujariaslp@gmail.com](mailto:geethapujariaslp@gmail.com)

Mr. Nadiminti Karena, M.Sc. (ASLP)  
Clinical Lecturer  
Shravana Institute of Speech and Hearing  
Ballari 583101  
Karnataka  
India  
[kk93337@gmail.com](mailto:kk93337@gmail.com)

Dr. Sudheer Bhan, Ph.D. (Linguistics)  
Lecturer in Speech Department  
Helen Keller's Institute of Speech and Hearing  
Secunderabad 500056  
Telangana  
India