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## Sentence Type Usage by Autistic Children

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### INTRODUCTION

Autism is a name given to a set of neurodevelopmental disorders in which the communicative aspects and the interaction of a person with other people is impaired. Autism is a spectrum that encompasses a wide range of behaviours. The common features include impaired social interactions, impaired verbal and nonverbal communications, and restricted and repetitive patterns of behaviour. This aspect is reflected in the criteria given by Diagnostic and Statistical Manual of Mental Disorders -V (2012). A summary of the DSM V criteria for autism spectrum disorder is given below: (AspieWriter, 2012)

A. Persistent deficits in social communication and social interaction across contexts, not accounted for by general developmental delays, and manifest by all 3 of the following:

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Rohila Shetty, MASLP, Ph.D. Scholar, T.A. Subbarao, Ph.D. and Aparna Hariharan, MASLP  
Sentence Type Usage by Autistic Children 313

1. Deficits in social- emotional reciprocity; ranging from abnormal social approach and failure of normal back and forth conversation through reduced sharing of interests, emotions, and affect and response to total lack of initiation of social interaction.

2. Deficits in nonverbal communicative behaviours used for social interaction; ranging from poorly integrated-verbal and nonverbal communication, through abnormalities in eye contact and body-language, or deficits in understanding and use of nonverbal communication, to total lack of facial expression or gestures.

3. Deficits in developing and maintaining relationships, appropriate to developmental level (beyond those with caregivers); ranging from difficulties adjusting behaviour to suit different social contexts through difficulties in sharing imaginative play and in making friends to an apparent absence of interest in people.

B. Restricted, repetitive patterns of behaviour, interests, or activities as manifested by at least two of the following:

1. Stereotyped or repetitive speech, motor movements, or use of objects (such as simple motor stereotypies, echolalia, repetitive use of objects, or idiosyncratic phrases).

2. Excessive adherence to routines, ritualized patterns of verbal or nonverbal behaviour, or excessive resistance to change; (such as motoric rituals, insistence on same route or food, repetitive questioning or extreme distress at small changes).

3. Highly restricted, fixated interests that are abnormal in intensity or focus (such as strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests).

4. Hyper-or hypo-reactivity to sensory input or unusual interest in sensory aspects of environment (such as apparent indifference to pain/heat/cold, adverse response to specific sounds or textures, excessive smelling or touching of objects, fascination with lights or spinning objects); APA 2011

C. Symptoms must be present in early childhood (but may not become fully manifest until social demands exceed limited capacities)

D. Symptoms together limit and impair everyday functioning.

Research and statistics in America under the special education programme showed that between 1994 and 2005, the number of children in the age range between 6-21 years, receiving services for autism, increased from 22,664 to 193,637 and that these numbers did not include all children with ASD's because some children receive special education for a particular need, like speech therapy, and not for a classification of autism. Experts estimate that every 2-6 children out of every 1000 have Autism (CDC, 2000 & 2002).

Currently the prevalence rate of autism in India is 1 in 250. The figure may vary as many cases are not diagnosed. Currently 10 million people are suffering from autism in India. The government only recognized the disorder in 2001. Till 1980s, there were reports that autism didn't exist in India (*Times of India*, April 2<sup>nd</sup>, 2013).

In the past 30 years, the prevalence of autism in India and the world has increased drastically. This is due to the increasing awareness of autism spectrum disorders and a lot of research work conducted on behaviours related to autism.

However, very few studies have taken into consideration the language aspects as a cohesive unit and the differences seen in the language aspects of autism. Rohila S, Subbarao, & Aparna H, (2014) presents a succinct review of literature pursued so far in India. This information may be briefly summarized here as follows:

Karant (2001) in her work on developing the Communication - Developmental Eclectic Approach to Language Learning (COMM-DEALL) model has focused on developing systematic intervention activities. Anjana (1999) emphasized on the pragmatic deficits in children with autism and highlights the issue of their inability to repair their conversations. Shilpashri (2010) developed a pragmatic developmental checklist and found severe deficits in 2-6 year old autistic children. Jahan (2010) reported reduced scores in the Malayalam language test (MLT) in a cross section of autistic children. Sen (2011) reported no differences between languages in bilingual autistic children.

## **AIMS OF THIS STUDY**

**Language in India** [www.languageinindia.com](http://www.languageinindia.com) ISSN 1930-2940 **14:1 January 2014**

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Sentence Type Usage by Autistic Children 315

This study aims at obtaining language data in autistic children with the objectives of

1. Describing the sentence types provided by 4-5 year old typically developing children for the sentence type production.
2. Describing the performance on sentence types by 4-5 year old mental age children with autism.
3. Comparison of the performance of the above two groups

## **METHOD USED**

In this study all the subjects were engaged in play/ interactive contexts with the researcher. The 20-30 minutes of interaction was videotaped and later transcribed. The transcription method closely followed the methodology adopted by Subbarao, 1995, which itself followed guidelines provided Language Assessment Remediation and Screening Procedure (LARSP), (Crystal, et al. 1976,1989). The transcribed sample was subjected to analysis for scans in the areas of syntax sentence types.

## **Subjects**

The subjects taken for the study were 10 normal subjects referred to as the reference group and 30 subjects with verbal autism referred to as the clinical group.

Thirty children diagnosed as having autism from in and around Mangalore and Bangalore cities were taken in the clinical group. These children were diagnosed with verbal autism based on the tests conducted by speech language pathologists and were confirmed from school records. Psychological assessment conducted by a school psychologist indicated the mental age as between 4 and 5 years of age for all subjects.

All the subjects selected were expressing at least occasionally in phrases and simple sentences according to records. The chronological age range was 8 to 14 years.

Ten typically developing (normal) school going children in the age range of 4-5 years were selected. The subjects were attending Kannada medium schools in and around Mangalore and Bangalore cities. They had no associated handicaps and illnesses and had Kannada as their major language of communication. All 10 subjects belonged to middle socio- economic status, living in semi-urban and urban areas. They were 5 male and 5 female subjects and the mean age was 4.5 years.

### **Data Collection and Analysis**

The data was collected by using toys and pictures. The sample collection was done based on the study by Subbarao, 1995. The children were observed during play sessions with the caregiver/clinician and the duration of each session was about 20-30 minutes. During data collection care was taken to ensure that the children were comfortable in their surroundings, be it with the caregiver or the clinician. This was done so that appropriate elicitation of responses could take place. The initial 15 minutes comprised of spontaneous speech or free conversation. In the next 15 minutes elicited responses were obtained.

The subjects were all given the same activity materials. The session was video recorded using a standard Sony video camera. The environment in which the recording took place was to a great extent, quiet but was conducted in the institutions that specialised in dealing with children who had speech and language disorders.

The sample thus obtained was further analysed and a detailed transcription of the conversation was done.

This was subjected to analysis which took into account syntactic aspects – sentence types as given below.

### **Sentence Types**

This scan includes interrogative types - yes/no, 'wh', reduplicated and tag, declaratives; negations - finite; affirmative; quotative; imperative, reflexive and permissive - sentence types. A few examples of each type of sentence, included for analysis are given below:

#### ***Interrogatives - Yes-No type***

Any sentence can be made interrogative by adding yes-no question marker /aa/, generally to the verb. In general intonation rises on /-aa/.

/avn na:le urg hogta:ne/ 'Tomorrow he will go to town.'

[he tomorrow to-town goes]

/avn na:le u:rg ho:gta:na:??/ 'Is he going to town tomorrow?'

/-aa/ can be added to other constituents of the sentence also.

/avan na:lana: u:rg ho:go:du??/ 'Is he going to town tomorrow?'

### ***Wh - interrogatives***

In Kannada, these question words usually begin with e-, ee:, or ya:. /elli/ 'Where?', /eenu/ 'what?', /ya:ru/ 'who?', /esTu/ 'how much?', /ya:vdu/?/ 'which one?', etc. These interrogative words then ask questions about the location, time, amount, manner, identity, substance, etc. of things. Every constituent in the sentence can be replaced by an e- word, in asking questions about those constituents. Example,

Avr ninne	nange	erdu	pustka	kotru
He yesterday	to-me	two	books	gave

ya:ru? ya:va:ga? ya:rge? estu? e:nu? e:n ma:didru

'Yesterday (when?) he (who?) gave (did what?) to me (to whom?), two (how many?) books (what?)'

### ***Reduplicated WH - interrogatives***

When e- words are reduplicated, the meaning is 'distributive'.

/el- elli?/ 'Where all?'

/e:n- e:nu?/ 'What all?'

/ya:r- ya:ru?/ 'Who all?'

### ***Tag questions***

In tag questions speakers follow a declarative sentence with the equational negative particle /alla/ plus interrogative /-a:/ to form /alva:/.

/ni:v bandidri, alva:??/ 'You came, didn't you?'

/ni:v shivrao, alva:ʔ/ ‘You are Shivarao, aren’t you?’

### ***Adjectival use of WH - interrogatives***

When e- words are used adjectivally, they impart an ‘exclamatory’ rather than interrogative meaning.

/ad est cenna:g -ide!/  
That how much good is. ‘How good (beautiful) that is!’

### ***Declaratives***

Statements can be used either positively or negatively.

/ya:va:glu barta:ne/ ‘He always comes.’

/ya:va:glu barolla/ ‘He never comes.’

### ***Negation***

Commonly, the finite negative is formed by adding the negative markers /illa, alla/ to the verb. /illa/ negates propositions, whereas /alla/ negates identity statements.

/avaru me:stralla/ ‘He is not a teacher.’

/avan u:rge ho:glilla/ ‘He didn’t go to the town.’

/avr kottilla/ ‘They haven’t given (something)’

### ***Affirmative***

/bart (a:) iro: hudga/ ‘The boy who is coming’

/bart (a:) illadhudga/ ‘The boy who isn’t coming’

/baro:hudga/ ‘The boy who comes’

### ***Quotative and reported sentences***

Kannada uses a special verb /annu/ to indicate quoting of some other source. When speakers want to report that some unidentified source has said something, the form /ante/ is used.

/avn barti:ni: anda/ ‘He said, “I will come”.

‘He I - come said ’

/avn barti:ni: anta helda/ 'He said, "I will come".

'He I - come having-said said'

/avr mestr ante/ 'It seems he is a teacher.'

He (hon) teacher seems 'He seems to be a teacher.'

### ***Embedded sentences***

By the use of 'anta' one sentence can be contained or embedded in another.

/na:n barti:ni:-nt he:lde-nt he:lbe:ku/

I coming-that said-that say-must

'(You) must say that I said that I am coming.'

### ***Imperative sentences***

Generally second person pronouns are considered to be the subjects of these commands or requests. Polite markers are added when needed.

/ni:nu ho:gu/ 'You (sing.) go!'

/ni:vu ho:gi/ 'You (plu.polite) go!'

### ***Reduplicatives***

Repeating a word more than once is used in Kannada to provide various semantic functions such as emphasis, addition, etc.

/avn Jo:rJo:r a:gi o:dda/ 'He ran very fast.'

/nang be:ke: be:ku/ 'I just want it, that's all.'

/e:n e:n be:ku?/ 'What all do you need.'

/u:tagi:ta/ 'Food or other edibles.'

### ***Possession***

/iru/ 'be' may be used to indicate possession, here subject is used with dative case.

/nange hana ide/ 'I have money.'

To me money is



/nimge henti-maklidda:ra:ʔ/ ‘Do you have a family?’

To you wife-children have

### ***Reflexive and permissive types***

Reflexive aspect marker /kollu/ indicates that an action is carried out for the benefit of the agent of action.

/kay-ka:l tolkolli/ ‘Wash your hands and feet.’

hands-feet wash yourself

### ***Permissive***

Permissive sentences indicate permission to do something for others.

/avr ha:du he:lli/ ‘Let them sing the song.’

They song let-sing

The presence or absence of these sentence types was observed during the analysis.

## **RESULTS**

The table shows that 4-5 years old normal (reference) group subjects used interrogative types yes/no and ‘wh’ types, declaratives, negation (finite) and possessive sentence types most frequently (80% or more). Affirmative, quotative/reported and adjectival use was observed to be used by around 50%. Reduplicated questions (/ya:r ya:ru/ (who all)), tag questions, embedded sentences (use of /-anta/), imperatives, reduplicated sentences (/jo:rjo:ra:gi/), reflexive (/kolta:re/) and permissive types were either not found at all or were seen only in one or two subjects.

The observations are generally supported by previous studies on language development in Kannada speaking 2 to 5 year old children, namely, Prema (1979), Vijayalakshmi (1981), Uma (1993), and Subbarao (1995).

The verbal autistic subjects used almost all types of sentences except tag questions. Declarative sentences, negation (finite), possessive, interrogative (Y/N type) and adjectival use are shown by 70% or more subjects. Affirmative, imperative,

reflexive, reduplicated statements, reduplicated questions, embedded and quotative sentences are used by 40% or less subjects.

Sl. No	Parameter	Reference group N=10(4-5Yrs)		Verbal autistic group N=30 (MA 4-5Yrs)	
			% age		% age
1	INTERROGATIVE-Y/N	9	90%	22	73.33%
2	INTERROGATIVE 'WH' TYPE	8	80%	17	56.66%
3	INTERROGATIVE REDUPLICATED	0	0%	5	16.66%
4	INTERROGATIVE TAG	1	10%	0	0%
5	ADJECTIVAL USE	3	30%	22	73.33%
6	DECLARATIVES	10	100%	30	100%
7	NEGATION (-F)	10	100%	25	83.33%
8	AFFIRMATIVE	6	60%	12	40.00%
9	QUOTATIVE/REPORTED	4	40%	3	10.00%
10	EMBEDDED	1	10%	6	20.00%
11	IMPERATIVE	0	0%	9	30.00%
12	REDUPLICATED	0	0%	4	13.00%
13	POSSESSIVE	10	100%	26	86.66%
14	REFLEXIVE	5	50%	9	30.00%
15	PERMISSIVE	1	10%	0	0.00%

**TABLE: SHOWING THE PRESENCE OF SENTENCE TYPES IN REFERENCE GROUP AND VERBAL AUTISTIC SUBJECTS (CLINICAL GROUP)**

The figure shows the comparative performance of both the groups. Comparable scores for both the groups can be seen for interrogative 'yes or no' and 'wh' declarative, negation and possessive.

Some typical examples used by verbal autistic are given below.

<b>Interrogative</b>	
- ‘Y/N’	: /obbare: ho: gta:ra:/ (Is he going alone?)
- ‘Wh’	: /nim mane: yellide/ (Where is your house?)
	/enge mane: katto:du/ (How to build the house?)
/	/enma:didru/ (What did they do?)
- Tag	: /adu ka:ru alva:/ (That is a car, isn’t it?)
<b>Adjectival use</b>	
	/cikka tatteade/ (It is a small plate.)
<b>Declaratives</b>	
	/sa:yanka:la barti:ni/ (I will come in the evening.)
	/ka:geka: antide/ (Crow is saying ka:)
<b>Negation</b>	
(it to) me.)	/namappa tand kodtilla/ (My father has not brought and given
	/nage ma:ma illa/ (I don’t have an uncle.)
	/nage gottilla/ (I don’t know.)
<b>Affirmative</b>	
	/inge: adti:nisa:r/ (I play like this, Sir.)
	/avar mane: ide: no:di/ (This is their house.)
	/na:nobbane: barti:ni/ (I will come alone.)
<b>Imperative</b>	
	/Kodiilli/ (Give (it) to me.)
<b>Possessive</b>	
	/Namm amma barta:re/ (My mother will come.)
<b>Reduplicated</b>	
	/ba:nva:ra ba:nva:ra no:dti:ni/ (I will see on every Sunday.)
	/beg be:g u:ta ma:dbe:ku/ (Should eat quickly.)
<b>Reflexive</b>	
	/kanadi no:dkollake/ (Mirror is for viewing.)

One general observation of sentence type is that verbal autistic subjects used simple sentence types with less number of spontaneous sentences. Slightly more frequent use of tag questions (use of *alva*), quotative (use of *anta*) by autistics may indicate the type of teaching

in special class rooms where a limited set of sentences are repeated several times. The verbal autistic children used adjectives mainly restricted to colour and size terms.

The predominance of sentences in present tense may be a consequence of the nature of data collection, where play and spontaneous 'here and now' conversations were encouraged. In the case of PNG markers, except for second person markers other types were noticed in the 4-5 year verbal autistic subjects. These results are consistent with the studies on hearing impaired subjects (Uma, 1993).

Verbal autistics did use more of present definite type sentences than present continuous type. For example, they used /hasu tinnatte/ to indicate that cow is eating, instead of using /hasu tinta: ide/ or /tintide/. The usage of second person plural marker /-ira/ was used more as a honorific form, for example, /ni:vu kodtira?/ (Would you give?). Again these usages are probably the effect of training at schools. Similarly child initiated communication attempts were very few, hence reducing second person usages.

The information available on the use of sentence types is likely to influence the assessment and intervention aspects of the SLP's work. The data in Kannada may help further research work on verbal autistics in other languages.

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Rohila Shetty, MASLP, Ph.D. Scholar, T.A. Subbarao, Ph.D. and Aparna Hariharan, MASLP  
Sentence Type Usage by Autistic Children 325

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