

# A GESTURE SCALE FOR THE HARD OF HEARING CHILDREN

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*This study aimed at developing a scale to describe the gestures of hard of hearing children. A questionnaire consisting of a list of screening items dealing with the understanding and use of gestures was prepared. After administering this to thirty hard of hearing children in the age range of 11 months to 7.4 years, undergoing speech and language therapy AIISH, it was revised. The revised scale is provided with.*

## **Introduction:**

"Gestures are an integral part of communication. For diagnostic purposes gesture includes all non-verbal body expression. For example shyness and reticence are communicated nonverbally. Likewise, haste, aggression, fear, resentment, hyperactivity and phlegm are all communicated nonverbally especially by young children who cannot communicate verbally" "Gesture also includes more formalized and more symbolized expression such as shaking the head for 'no'. The most intricate system of symbolized gestures is the language of signs used by many individuals having deafness from early life. Gesture is a significant aspect of language behaviour (2)" "Frequently, it is a form of symbolic behaviour in that the gesture is a symbol in the same manner that a word is a symbol. As a means of expres-

ssion it preceded verbal language both phylogenitically and ontogenitically" (4).

Like other forms of expressive behaviour, it assumes a minimum of inner language. Only those children who have internalized their world symbolically can use gesture as language. A child cannot use expressive language in any form without first having been capable of receiving sensory impressions and integrating these into meaningful experience; he must have had a minimum of perceptual and conceptual integration and development. Therefore gestures reveal neural organismic functioning and constitute nonverbal behaviour with far reaching implications for diagnosis.

When a diagnostician is encountered with a hard of hearing child with speech and language delay, he aims at differential diagnosis. However, he does not make an attempt to describe the concepts the child has in terms of

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gestures. The description of these gestures would indicate the inner language of the child and it facilitates in developing a therapeutic programme in that only oral symbols are to be provided for the concepts already developed.

Further, a normative data on the gestures would facilitate to differentiate between an aphasic, emotionally disturbed, mentally retarded and hard of hearing child. "The child with peripheral deafness differs from other types of auditorilly disturbed children in this respect. Ordinarily he uses gesticulation by the age of 2 years. Children with receptive aphasia characteristically do not gesture. Emotionally disturbed children also do not use gestures because of their inability to relate adequately to other people. Mentally deficient children might use gestures but only at the level of their ability to function mentally. Hard of Hearing children understand the gestures of others". (5).

The present study aimed at developing a scale to describe the gestures of hard of hearing children.

This gesture scale was designed primarily for use with children having hearing loss with speech and language delay. Basically the scale provides information as to

the child's level of performance in comprehending gestures and expressing through gestures.

#### Preliminary work:

Initially a review of literature on language development was undertaken. On the basis of this review, a list of screening test items on language acquisition was developed. This was administered to normals and clinical population consisting of hard of hearing children. Based on the results of these items (by replacing oral expression, through gestures) a questionnaire which dealt with the understanding and use of gestures was prepared. In the questionnaire the items under 'oral expression' were changed to allow for expression through gestures. This was administered to 25 hard of hearing children with delayed speech and language in the age range of 1.2 to 7.2 years. The subjects were evenly distributed in this age range. Each correct response was scored as plus (+) and incorrect responses were scored as minus (-) Depending on the responses of the subjects some items were deleted and the questionnaire was revised to test gestures. This scale had 88, receptive and expressive items which included some items from REEL scale (1). The test items were in the form of statements and or questions. The ordered items were placed

in one month age interval group upto 12 months. From 12 months to 24 months the items were spread in 2 months interval and from 24 months to 36 months, the age interval was three months. From three years onwards, the age interval was 6 months.

### **Method:**

Thirty hard of hearing children, in the age range of 11 months - 7.4 years, undergoing speech and language therapy at AIISH, were the subjects. They were distributed evenly throughout the age range. All of them had Kannada as their mother tongue. None of them had any associated problems like mental retardation, cerebral palsy etc.

Testing was carried out in the therapy rooms of AIISH. Each child was sitting facing the examiner in the test situation. Along with the children the mother was also present. The test items in the list were administered with the help of the parent. Each testing session lasted for 30 - 45 minutes.

The testing started with the receptive items. The first item administered was in the age group that correspond to the chronological age of the child. For example, if the child was 19 months old, the

test was started with the items from 18 - 20 months interval. The items were read out to the mothers and their assistance was sought in using appropriate gestures for communicating with their children. These gestures were used to elicit the child's responses. One item was tested at a time. Response for each item was scored plus, if the child responded correctly and was scored minus, if the child responded incorrectly. The scoring was plus - minus if the correctness of the response was doubtful. (For example, though the parents reported that the children understand the ordinal concept, the children did not perform correctly in the test situation). The test was continued until the child had two successive failures. This age level was considered as his receptive - gesture age. The expressive items were also tested in the same manner. In this, however, the gestures used by the child were observed. After this, the child was tested for ten items below his chronological age and ten times above his receptive gesture age. The responses were noted down for each item.

### **Results and Discussion:**

A general trend in the acquisition of gestures was observed. The children did not perform at the expected levels

of ages for certain items. They lagged behind for atleast four items, They performed atleast two years below their chronological age. For example, while they were expected to use two gestures to make a sentence at the age of 18 - 20 months, they were observed to do so only at 4 1/2 years. In contrast, certain items (four) which were expected to be acquired at a particular age interval, were found to be acquired earlier. For example, the children used gestures for 'infront oi', 'how much' and 'numbers upto three' much earlier than expected.

In the final form, some items were deleted from the scale as it was very difficult to obtain response for those test items. For example, it was difficult to test the items which dealt with the comprehension of simple present and future tense.

On the basis of these findings the test items on the scale were arranged accordingly and a gesture scale was arrived at (See appendix).

The results indicate that the age at which the first expressive gesture appeared varies from 7 months to 3 years. The average age of first expressive gesture among boys was found to be 1.3 years and among girls it was 2.0 years. It is possible that

parents in our culture might have payed more attention to male children.

The most frequent initial expressive gestures to appear were found to be nodding the head for 'no' beckoning for 'come' and handwaving for 'data'. At an age ranging from 2 1/2 to 5 1/2 years the children started using two gestures together.

Similarly, the first gestures to be understood by these children were 'give' 'no' 'put that down'. At the age range of 20 - 22 months, they were able to follow a series of 2 or 3 related commance when gestured.

The results suggest that nis scale may be used in assessing the gesteres of hard of hearing children. Assessing ststures using this scale, as erapeutic programme could - developed for the hard of hearing children. The therapist would be able to learn about i e gestural language and to provide oral vocabulary for rhe already known concepts of the deaf children. However, to use it as a diagnostic and a differential diagnostic tool, it needs to be administered to a large heterogeneous clinical population and analyzed.

## GESTURE SCALE FOR THE HARD OF HEARING CHILDREN

### Reception

### Expression

#### 10-11 MONTHS

1. Occasionally follows simple gesture commands like 'put that down' 'give me' etc.
2. Stops action in response to the gesture 'no'.

#### 11-12 MONTHS:

3. Demonstrates understanding by responding with appropriate gestures to several kind of gestures (give the ball, say tata).
4. Shows attention and responds to gesture over prolonged period of time.

1. Uses 2-3 gestures with some consistency

2. Gestures to toys and people, through out the day accompanied by vocalizations

#### 12-14 MONTHS:

5. Appears to understand new gestures each week.
6. Seems to understand the psychological feelings and shades of meaning of most speakers through facial and bodily gestures.
7. Will sustain interest for 2 or more minutes in looking at pictures if their names are gestured.

3. Uses 5 or more gestures with some consistency
4. Attempts to obtain desired objects by using voice in conjunction with pointing and gesturing

#### 14-16 MONTHS:

8. Recognizes and identifies many objects when gestured.
9. Shows the major parts of the body when gestured.

5. Uses 7 or more gestures consistently

16-18 MONTHS:

10. Comprehends simple gestured questions and carries out 2 consecutive gesture direction with a ball or other subjects (eg. Give this ball to father)

18-20 MONTHS:

11. Demonstrates understanding of action gestures such as sit down, come here, stop that etc.

12. Understands distinctions in personal pronouns when gestured (pointed)

Eg: give it to her  
give it to him  
give it to me

20-22 MONTHS:

13. Follows a series of 2 or 3 simple but related commands when gestured.  
(eg. bring that bottle and keep it on the table)

14. Recognizes most of the common objects when they are gestured

22-24 MONTHS:

15. Upon gestural requests selects an item from a group of 5 or more varied items (plate, glass, spoon....)

16. Appears to visualise the meaning of the gestures rather than just imitating

17. Understands complex gestured sentences (I will get you a chocolate when we go to shop)

6. Begins using gestures (?) he knows to express his wants and needs

7. Evidences a continuous but graded increase in the use of gestures.

8. Has a gesture vocabulary of atleast 10-20 gestures

9. Gestures, Hello  
Thank you or equivalent

10. Uses more and more gestures

11. Attempts to tell about experiences using gestures

12. Begins using gestures to indicate pronouns (eg. I, you)

13. Answers gestured questions by using gestures

### 24-27 MONTHS:

18. When asked by gestures, points to smaller body parts. (neck, tongue, cheek)
19. Recognizes and identifies general family category when gestures are used (Grand mother, sister, grand father)
14. Gestures for help with some-personal needs such as washing hands, going to toilet, etc.
15. Usually uses combination of gestures to make a sentence

### 27-30 MONTHS:

20. Demonstrates an understanding of gesture association through functional identification (correctly gestures such question gestures as what do you wear? etc. . . .)
21. Understands size differences when gestured (small, large, big, little)
10. Has the concept of at least one colour and/the number/ matches colours and gestures for 'one'

### 30-33 MONTHS:

22. Understands the gesture of almost all common verbs
23. Understands the question 'who' when gestured
17. Scribbles and gestures about what he has scribbled

### 33-36 MONTHS:

24. Shows interest in explanations of 'why' things and how things function when gestured
25. Carries out 3 simple gesturing commands when gestured. (Eg. Remove the slippers, wash your leg and have food)
18. Regularly relates experiences from the past using gestures
19. Describes action pictures through gestures

26. Understands prepositions when gestured (on, under, front, behind etc.)
20. Uses gestures to indicate 'many'

3-3 1/2 YEARS:

27. Comprehends 'how much' & 'more' when gestured
21. Uses can't and don't in gestures
28. Comprehends 'no' used to indicate non-existence when gestured

3 1/2 -4 YEARS:

29. Comprehends comparison sentences when gestured  
Brother is tall  
Sister is short
22. Matches all major colours
30. Points out animals, objects, foods from a large group of other pictures
23. Uses action gestures predominantly
31. Comprehends demonstrative nouns 'this, that, there' when gestured
24. Uses comparison gestures (this pencil is short, that is tall)

4-4 1/2 YEARS:

32. Comprehends 'a little' and all when gestured
25. Uses 2/3 gestures as a sentence
33. Comprehends past tense when gestured
26. Uses below, inside, ontop, out what, when, whose, who, how, no by using gestures
34. Comprehends noun phrase with 2 adjective modifiers (big red house) when gestured
27. Uses gestures for simple past tense
35. Comprehends prepositions 'at side of, 'in front of, 'between' when gestured
28. Uses gestures for in front of, and numbers upto 3

4 1/2-5 YEARS:

36. Shows pictures appropriate to gestures
29. Describes action pictures through gestures



30. Tends to enact in body postures and gestures what is told in a story

5-6 YEARS:

37. Comprehends quantitative objects when gestured (few, many)

38. Distinguishes between can't/ can when gestured

39. Comprehends the meaning of 'half when gestured

31. Uses gestures for black and 'stout'

6-7 YEARS:

40. Can understand most of the gestures

32. Uses gestures for double adjective noun phrases

7-8 YEARS:

41. Comprehends the meaning of quantity adjectives. 1st, 2nd, 3rd and last when gestured

33. Uses 3 to 4 gestures together to form a sentence

34. Can use gestures like an adult

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