

AIISH Tests & Therapy Resources Series

BINAURAL FUSION TEST FOR CHILDREN IN KANNADA



Tamanna Khurana
Vijayalakshmi Basavaraj



All India Institute of Speech and Hearing

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This work is compiled as a part of an AIISH Funded Research Project on **Product Development of Useful Products of Research carried out at AIISH** by a research team comprising:

1. Dr. Prashanth Prabhu P., Assistant Professor in Audiology as Principal Investigator,
2. Dr. Priya M.B., Lecturer in Speech Sciences as Principal Investigator,
3. Dr. Shijith Kumar C., Library and Information Officer as Co-Investigator
4. Ms. Merin Susan Mathew and Ms. Rekha D., as Research Officers

PREFACE

The All India Institute of Speech and Hearing (AIISH) is a premier organization in the country mandated for human resource development, research, clinical care and public education in the field of communication disorders. The institute promotes research by giving particular emphasis to clinically relevant applied research on causes, control and prevention of communication disorders, assessment and treatment issues as well as the testing and refinement of new technologies for the speech, language and hearing disorders. A considerable number of tests, word lists and therapy materials are being created as by-products of such research works carried out as postgraduate and funded research. However, these valuable resources are mostly unused as they are not readily accessible for use in the clinical settings. Hence, a project has been initiated to identify, reorganise into suitable formats and publish clinically useful research works carried out at AIISH as independent books, and make them useful for the practicing audiologists and speech-language pathologists working across the country in different setups for the evaluation and management of communication disorders.

All the tests/ therapy materials that are prepared under this project are published under a series titled "*AIISH Tests & Therapy Resources*". The project team comprises: Dr. Prashanth Prabhu P., Assistant Professor in Audiology (Principal Investigator), Dr. Priya M.B., Lecturer in Speech Sciences (Principal Investigator), Dr. Shijith Kumar C., Library and Information Officer (Co-Investigator) and Ms. Merin Susan Mathew and Ms. Rekha D (Research Officers).

This book titled **Binaural Fusion Test for Children in Kannada** is an outcome of the effort in the above direction. It was originally developed by **Ms. Tamanna Khurana**, in partial fulfillment of her Master's dissertation under the guidance of **Prof. Vijayalakshmi Basavaraj**.

Dr. M. Pushpavathi
Director, AIISH

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Introduction

Comprehensive evaluation of individuals with Central Auditory Processing Disorders (CAPD) is a challenging task. As CAPD represents a heterogeneous group of auditory deficits, it is important that a test battery approach be used so that different underlying processes, as well as different levels of functioning within the central auditory nervous system can be assessed. There are numerous tests of central auditory processing that have been developed over the years and have been categorized as Dichotic Speech Test, Temporal Ordering Tasks, Monoaural Low Redundancy Speech Tests and Binaural Interaction Tests. Among the above mentioned tests, binaural interaction tests generally assess the ability of central auditory nervous system to process disparate, but complementary information presented to the two ears. The stimuli utilized in binaural interaction tasks are presented in a non - simultaneous, sequential condition, or the information presented to each ear is composed of a portion of the entire message, necessitating interaction of the information in order for the listener to perceive the whole message. The tests of binaural interaction include- Rapidly Alternating Speech Perception Test (RASP), Masking Level Difference Test, Interaural Just Noticeable Differences and Binaural Fusion Test.

Binaural fusion test has been found to be a sensitive tool to assess binaural interaction ability in children. Due to the apparent lack of such tests for assessing auditory processing disorder in children, especially in the Indian context, a need to develop it in various Indian languages and obtain age appropriate norms arises.

Brief description about the test

The Binaural Fusion Test in Kannada was developed to assess children from 7-12 years of age for the presence of auditory processing deficits, particularly, in binaural interaction. The test material has two lists of 25 phonetically balanced words each (Appendix A).

Presentation Level: 40 dB SL ref Pure Tone Average (PTA)

Instructions: *“Listen to the words carefully and repeat the words”.*

Scoring

Each correct response is given a score of '1' and each incorrect/no response is given a score of '0'. Scores can be noted in the scoring sheet (Appendix B).

Interpretation

The scores obtained by an individual can be calculated and compared with the scores obtained from the study (Appendix C) to infer the results.

Appendix A

Test Stimuli

Sl. No.	List I	Sl. No.	List II
1.	ಗೋಡೆ /gōdɛ/	1.	ತಗೋ /tɔgō/
2.	ಸರ /səra/	2.	ಕೋಪ /kōpa/
3.	ಗಿಡ /gidɔ/	3.	ದಿನ /dina/
4.	ದೋಸೆ /dōsɛ/	4.	ಕುಡಿ /kudɪ/
5.	ಕುರಿ /kuri/	5.	ತಡಿ /tɔdɪ/
6.	ನೂರು /nūru/	6.	ರಸ /rasa/
7.	ಕೋತಿ /kōtɪ/	7.	ಜಾಣೆ /dʒɔɳɛ/
8.	ಜಡೆ /dʒɔdɛ/	8.	ದೂರ /dūra/
9.	ಟೋಪಿ /tōpi/	9.	ಕರೆ /kɛrɛ/
10.	ರಾಜ /rādʒa/	10.	ಗೂಬೆ /gūbɛ/
11.	ತುಟಿ /tuṭɪ/	11.	ತೂಕ /tūka/
12.	ಹಸು /hasu/	12.	ನೀನು /nīnu/
13.	ಮೇಕೆ /mēkɛ/	13.	ಸೂಜಿ /sūdʒi/
14.	ಬಿಳಿ /biɭɪ/	14.	ಶೀತ /ʃiṭa/
15.	ಚಾಕು /tʃɔku/	15.	ಹಣ /haṇa/
16.	ಮೂರು /mūru/	16.	ಮರ /mərə/
17.	ಮೂಗು /mūgu/	17.	ಮಾತು /mātu/
18.	ಜನ /dʒɔna/	18.	ಹಾಡು /hādu/
19.	ಪಾಪು /pāpu/	19.	ಬಡಿ /bɔdɪ/
20.	ಮೀನು /mīnu/	20.	ಬಿಸಿ /bisi/
21.	ಸೇಬು /sēbu/	21.	ನೋಡು /nōdu/
22.	ನೀರು /nīru/	22.	ಸಾರು /sāru/
23.	ರಜೆ /rɔdʒɛ/	23.	ಚಾಕು /tʃɔku/
24.	ಮರಿ /məri/	24.	ನಾನು /nānu/
25.	ಸೊಳ್ಳೆ /solɭɛ/	25.	ಕಾಸು /kāsu/

Appendix B

Score Sheet

Sl. No.	LIST I	Score	Sl. No.	LIST II	Score
1.	/gōdɛ/		1.	/t̪əgō/	
2.	/səra/		2.	/kōpa/	
3.	/gɪd̪a/		3.	/d̪ina/	
4.	/d̪ōsɛ/		4.	/kud̪ɪ/	
5.	/kuri/		5.	/t̪əd̪ɪ/	
6.	/nūru/		6.	/rəsa/	
7.	/kōt̪ɪ/		7.	/d̪ʒāŋɛ/	
8.	/d̪ʒəd̪ɛ/		8.	/d̪ūra/	
9.	/t̪ōpɪ/		9.	/kɛɛ/	
10.	/rād̪ʒa/		10.	/gūbɛ/	
11.	/t̪ɔt̪ɪ/		11.	/t̪ūka/	
12.	/həsɔ/		12.	/nīnu/	
13.	/mēkɛ/		13.	/sūd̪ʒɪ/	
14.	/bɪɪ/		14.	/ʃɪt̪a/	
15.	/t̪ʃākɔ/		15.	/həŋa/	
16.	/mūru/		16.	/məra/	
17.	/mūgu/		17.	/māt̪ɔ/	
18.	/d̪ʒəna/		18.	/hād̪ɔ/	
19.	/pāpɔ/		19.	/bəd̪ɪ/	
20.	/mīnu/		20.	/bɪsɪ/	
21.	/sēbu/		21.	/nōd̪ɔ/	
22.	/nīru/		22.	/sāru/	
23.	/rəd̪ʒɛ/		23.	/t̪ʃākɔ/	
24.	/məɪɪ/		24.	/nānu/	
25.	/sol̪ɛ/		25.	/kāsɔ/	

Appendix C

Score

Age (years)	Gender	List I		List II	
		Mean	SD	Mean	SD
7+ to 8	Male	17.70	1.76	18.40	1.07
	Female	18.40	1.42	18.30	1.49
8+ to 9	Male	19.20	1.03	20.10	1.59
	Female	20.20	1.54	19.90	1.44
9+ to 10	Male	20.90	0.73	20.30	0.82
	Female	20.80	1.22	20.50	1.43
10+ to 11	Male	21.40	0.51	21.80	0.42
	Female	21.60	0.51	21.40	0.96
11+ to 12	Male	22.30	0.67	21.80	0.63
	Female	22.70	1.05	22.10	0.56

AIISH: GENESIS AND GROWTH

The All India Institute of Speech and Hearing is a premier institute in the country imparting training in the field of Speech and Hearing. Established on 9th of August 1965 as an autonomous organization, AIISH caters to manpower generation in the field, promoting research and providing rehabilitation services in the area. The institute is located on a sprawling area of 39 acres (two campuses) in Mysore. The institute registered as a Society under the Societies Registration Act XXI of 1860 (Punjab Amendment Act, 1957) and its functioning as an autonomous body under the aegis of the Union Ministry of Health and Family Welfare. Established primarily as training institute, it started training programs at postgraduate level in 1967 followed by B.Sc (Speech and Hearing) in 1968. The institute now offers three Diploma programs: Diploma in Hearing Aids and Ear mould technology, Diploma in Training the Young Hearing Impaired, Diploma in Hearing, Language and Speech through distance mode; two graduate programs: Bachelors in Audiology, Speech and Language Pathology (B. ASLP) and B. S. Ed (Hearing Impairment); three Master Programs (M.Sc. in Audiology, M.Sc. in Speech- Language Pathology and M.S.Ed. in Hearing Impairment); two PG Diploma courses (PG Diploma in Forensic Sciences and Technology, Clinical Linguistics for SLPS); two doctoral programs (Ph.D. in Audiology and Speech-Language Pathology); and Post-Doctoral Fellowships. The institute also conducts short- term training and orientation programs for professionals in allied specialties.

The institute has been recognized as a Centre of Excellence in the area of deafness (WHO), as a centre for advanced research (UGC) and as a Science and Technology Institute (DST). The institute is affiliated to the University of Mysore for the award of degrees. The academic programs of the institute have the recognition of the Rehabilitation Council of India. The institute has also been recognized as a Nodal Center for the implementation of the National Program for Prevention and Control of Deafness, Ministry of Health and Family Welfare, Government of India as well as for generating manpower for the same. Owing to its academic and research excellence, the institute has been assessed and accredited by NAAC with 'A' grade . Also, it is an ISO 9001:2015 certified organization for its brilliance of quality. Furthermore, it has been recognized as College with Potential for Excellence by the UGC, and as a Collaborative Organization for the Rashtriya Bal Swasthya Karyakram (RBSK), a Govt. of India scheme under the Ministry of Health and Family Welfare. The institute is a Centre of Excellence in Communication Disorders and a Govt. of India recognized Disability Certification Centre.

The functioning of the institute is under the direction of the Executive Council with Hon'ble Union Minister for Health and Family Welfare as the Chairman and the Hon'ble Minister of Health and Family Welfare, Government of Karnataka as Vice- Chairman. The other statutory bodies of the institute are the Finance Committee and the Academic Sub Committee.



All India Institute of Speech and Hearing



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