

Preschool deaf children using spoken language have delays in early morphosyntax and phonological skills

BUT age-appropriate expressive vocabulary and letter-sound knowledge

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Early phonological, grammatical skills and emergent literacy in preschool deaf children

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INTRODUCTION

- Morphosyntax and phonological skills are important for reading ability in school-aged deaf children who use spoken language (*e.g. Boons et al., 2013; Nittrouer et al., 2014*).
- Few studies have looked at the development of emergent literacy in preschool deaf children.
- Little is known about the role of early language ability (e.g. morphosyntax and phonological skills) in predicting emergent literacy in preschool deaf children who use spoken language.

RESEARCH QUESTIONS

- RQ1: Do preschool deaf children who use spoken language have age-appropriate literacy-related language skills?
- RQ2: Are early morphosyntax and phonological skills related to emergent literacy in deaf children?
- RQ3: Is the same pattern of associations observed for deaf and hearing children?

METHODS

PARTICIPANTS:

- 100 3-4 year old children (mean 4:03)
- 49 severely/profoundly deaf and 51 typically hearing
- All deaf children use spoken English (57% also use or have used some BSL/SSE)
- 63% fitted with cochlear implants, 37% digital aids

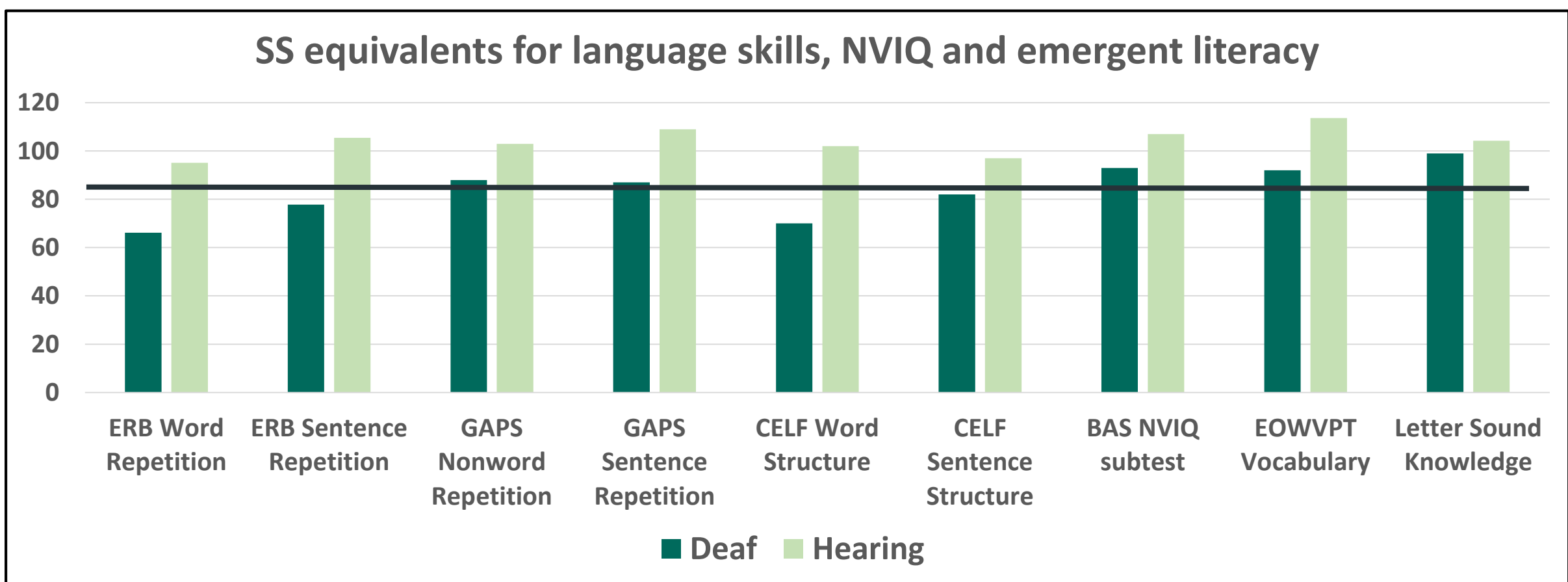
ASSESSMENTS:

Children were administered a battery of assessments in spoken English testing:

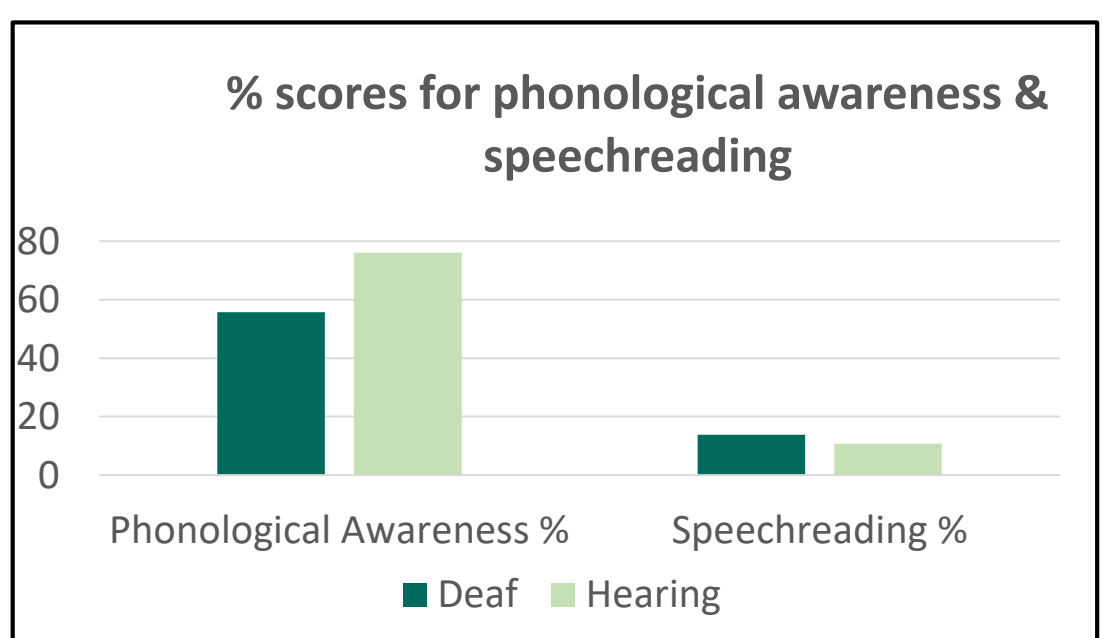
- Morphosyntax (sentence repetition, word and sentence structure)
- Phonological skills (nonword repetition, speechreading)
- Emergent literacy (vocabulary, phonological awareness, letter-sound knowledge)

RESULTS

RQ1: PRESCHOOL LANGUAGE ABILITY



- Large individual differences in scores
- Deaf group had lower NVIQ than hearing group and a wider range of NVIQ abilities



RQ2 & RQ3: ASSOCIATIONS BETWEEN DIFFERENT LANGUAGE SKILLS

After controlling for age and NVIQ -

- Deaf children's early morphosyntax skills (word structure, sentence structure and sentence repetition) were highly correlated with each other and expressive vocabulary, and moderately correlated with letter-sound knowledge.
- Deaf children's early phonological skills (nonword repetition) were moderately correlated with expressive vocabulary, letter-sound knowledge and phonological awareness.
- Hearing children showed a very similar pattern of associations.

DISCUSSION

- Deaf children showed an uneven pattern of performance across the different language tasks. As a group, their morphosyntax skills were delayed but expressive vocabulary and letter-sound knowledge were in the normal range, albeit weaker than their hearing peers.
- Both deaf and hearing children will be followed up over a 2 year period to examine whether individual differences in preschool language abilities are related to later reading and spelling outcomes.

ADDITIONAL DETAILS

DEAF PARTICIPANTS:

- 28 boys and 21 girls
- 16% exposed to a different spoken language at home

HEARING PARTICIPANTS:

- 25 boys and 27 girls
- 16% exposed to a different spoken language at home

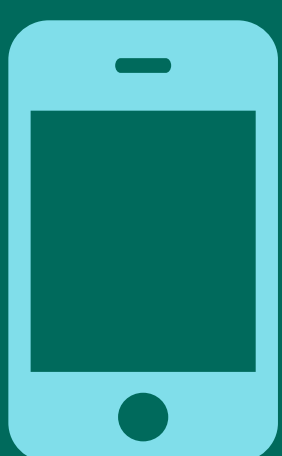
LIST OF ASSESSMENTS AND MEANS/SD:

Measure	Deaf			Hearing		
	N	Mean (SD)	Range	N	Mean (SD)	Range
ERB Word Standard Score	48	66.19 (16.87)	49-103	51	95.14 (20.79)	50-130
ERB Sentence SS	36	77.75 (16.15)	60-114	49	105.45 (16.68)	65-137
YARC Letter Sound SS	46	98.96 (15.72)	75-130	52	104.25 (15.39)	75-130
CELF Word scaled score	47	4.51 (3.82)	1-15	51	10.27 (2.51)	1-15
CELF Sentence scaled score	47	6.70 (3.53)	1-15	51	9.73 (2.65)	3-16
GAPS sentence percentile	46	19.24 (24.00)	1-100	50	73.52 (30.97)	1-100
GAPS nonword rep percentile	47	20.57 (20.67)	4-79	50	58.06 (32.84)	4-100
EOWVPT Standard score	48	91.98 (22.72)	54-139	51	113.61 (14.40)	63-144
Phonological Awareness	48	13.38 (3.75)	0-22	50	18.26 (3.37)	10-24
Speech intelligibility rating	48	3.04 (1.35)	1-5	52	4.85 (.54)	2-5

HEARING DEAF ↓ →	CELF Word	CELF Sentence	Letter Sounds	GAPS Nonword Rep	GAPS Sentence Rep	Vocab	Phono-logical Awareness	Speech-reading
CELF Word Structure		.622 (.000)	.575 (.000)	.476 (.001)	.791 (.000)	.692 (.000)	.391 (.009)	.201 (.191)
CELF Sentence Structure	.456 (.001)		.456 (.002)	.402 (.007)	.720 (.000)	.726 (.000)	.227 (.065)	.230 (.128)
Letter Sound Knowledge	.208 (.156)	.365 (.011)		.472 (.001)	.521 (.000)	.451 (.002)	.513 (.000)	.165 (.283)
GAPS NonWord Rep	.402 (.005)	.277 (.059)	.582 (.000)		.486 (.001)	.485 (.001)	.406 (.006)	-.047 (.763)
GAPS Sentence Rep	.542 (.000)	.424 (.003)	.284 (.053)	.605 (.000)		.707 (.000)	.285 (.064)	.210 (.176)
Vocab	.513 (.000)	.449 (.001)	.511 (.000)	.391 (.007)	.496 (.000)		.441 (.002)	.254 (.093)
Phonological Awareness	.581 (.000)	.561 (.000)	.307 (.036)	.317 (.032)	.411 (.005)	.275 (.061)		.277 (.066)
Speech-reading	.086 (.559)	.191 (.194)	.336 (.019)	.203 (.172)	.088 (.555)	.167 (.255)	.318 (.030)	

OTHER ASSESSMENTS:

- Home literacy environment
- Speech intelligibility
- Print concepts and word in print



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