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BOSTON, MA • NOVEMBER 15-17

Language Outcomes of Children Who are Deaf or Hard of Hearing - Insights from LSL-DR

Uma Soman, Ronda Rufsvold, Betsy Brooks, Meredith Berger, & Tamala Bradham
Carle Auditory Oral School, Clarke Schools for Hearing and Speech, Moog Center for Deaf Education, CCHAT Sacramento,
Vanderbilt University Medical Center, and OPTION Schools

INTRODUCTION

- ❑ Children who are deaf or hard of hearing (DHH) can develop listening and spoken language when they receive early diagnosis, early access to sound through hearing technology, and early intervention.
- ❑ OPTION programs are a consortium of schools and intervention programs that provide listening and spoken language (LSL) intervention to infants, toddlers and children who are DHH.
- ❑ OPTION programs in the US, administer annual assessments and enter outcomes data into Listening and Spoken Language Data Repository (LSL-DR).
 - ❑ **Vocabulary** – Peabody Picture Vocabulary Test (**PPVT-4**) & Expressive Vocabulary Test (**EVT-2**) OR Receptive/Expressive One Word Picture Vocabulary Test (**ROWPVT** & **EOWPVT**)
 - ❑ **Language** – Clinical Evaluation of Language Fundamentals - Primary (**CELF-P**) OR Oral Written Language Scales (**OWLS**) OR Preschool Language Scale (**PLS**)

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OBJECTIVE & METHODS

- ❑ **This e-poster characterizes language development trajectories of children who are DHH and have attended OPTION programs between the ages of 3-6 years.**
- ❑ Outcomes for children who met the following criteria were analyzed
 - ❑ Three data points for standardized vocabulary assessments (PPVT & EVT or ROWPVT & EOWPVT) at age three, four, and five
 - ❑ Three out of four data points for standardized language assessments (CELF and OWLS) at age three, four, five, and six
- ❑ Various factors including hearing technology, age at intervention in OPTION program, language spoken in the home, prematurity, presence of additional disabilities were coded and will be discussed in future publications.
- ❑ Outcomes of children who were reported as having a mild, moderate, or severe impact on learning were analyzed as a part of the sample, but also separately.



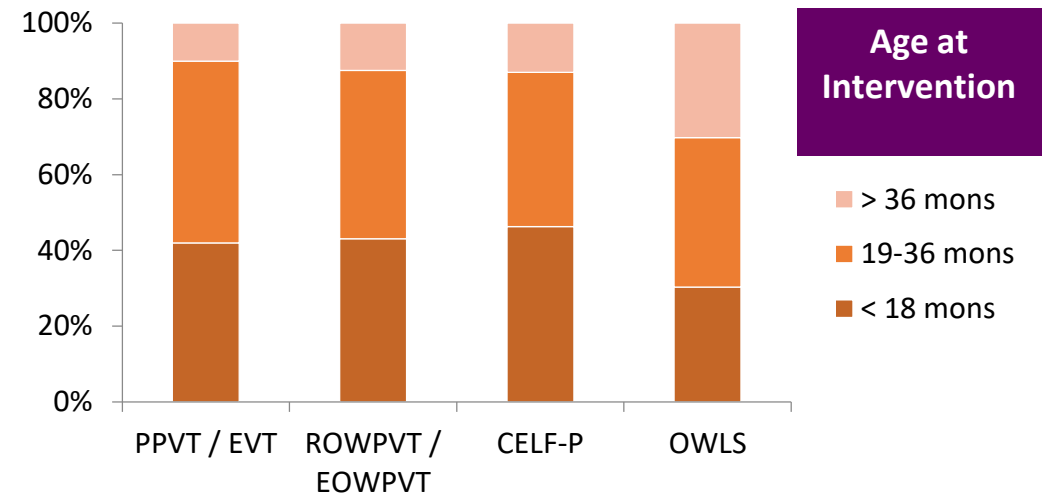
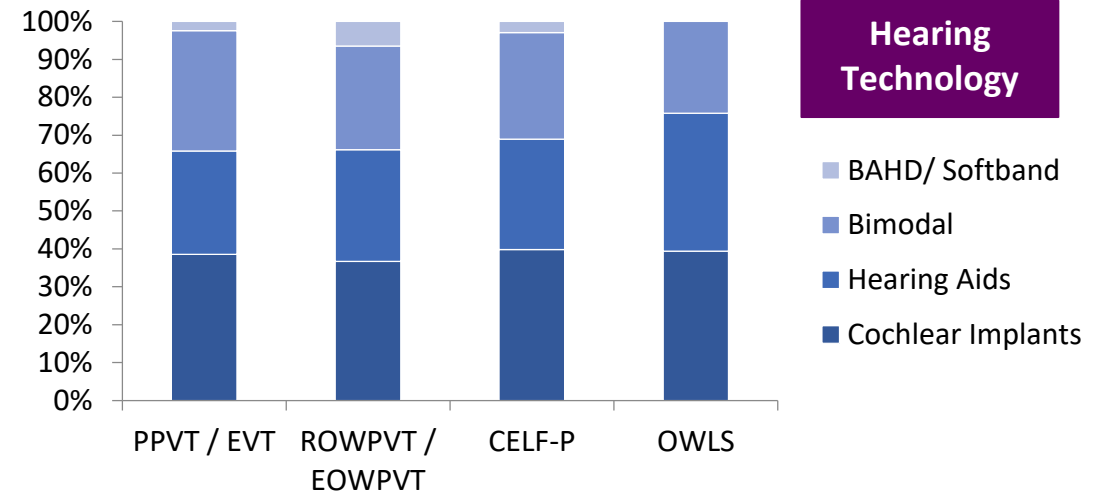
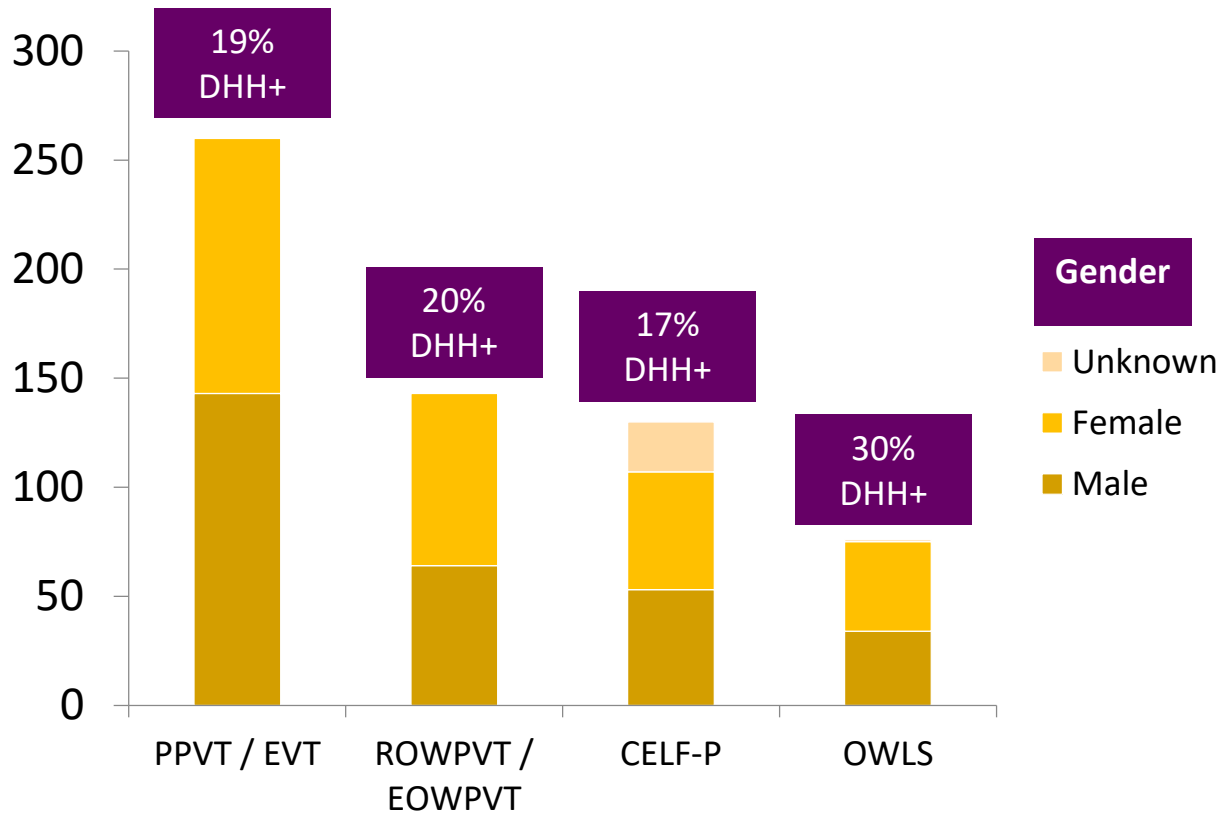
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PARTICIPANT CHARACTERISTICS



PPVT = Peabody Picture Vocabulary Test, EVT = Expressive Vocabulary Test
 EROWPVT = Expressive One Word Picture Vocabulary Test, ROWPVT = Receptive One Word Picture Vocabulary Test
 CELF -P = Clinical Evaluation of Language Fundamentals – Preschool, OWLS = Oral Written Language Scales



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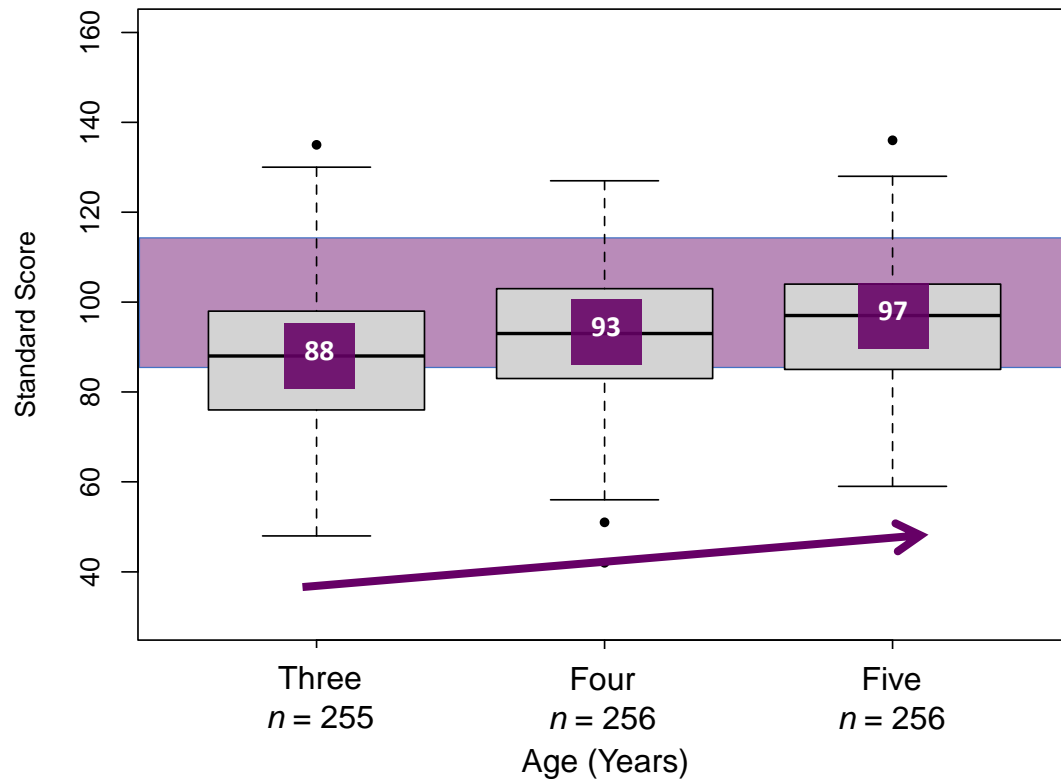
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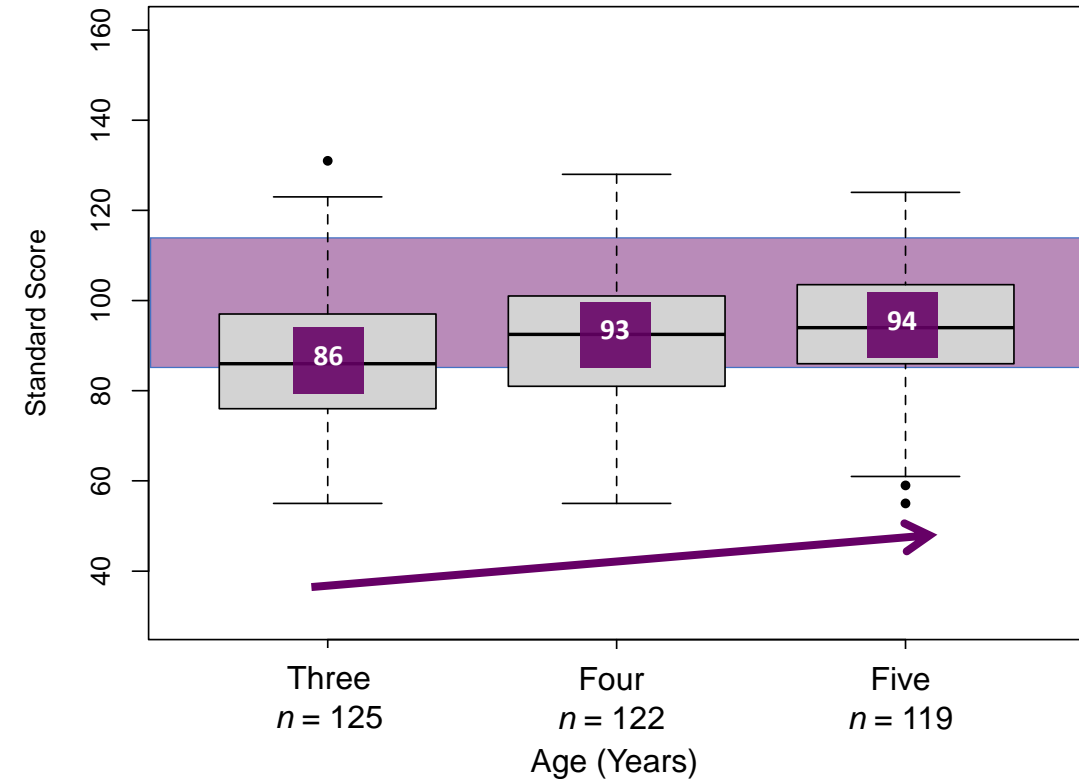
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RESULTS – Receptive Vocabulary

Performance on Peabody Picture Vocabulary Test



Performance on Receptive One-Word Picture Vocabulary Test





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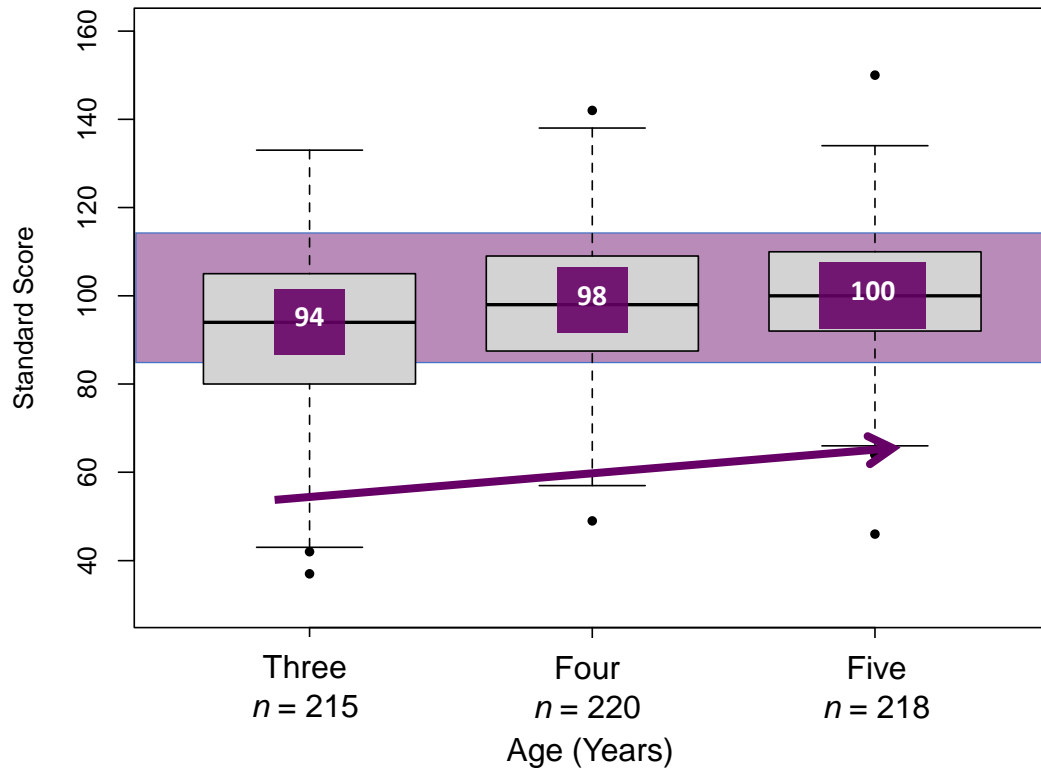
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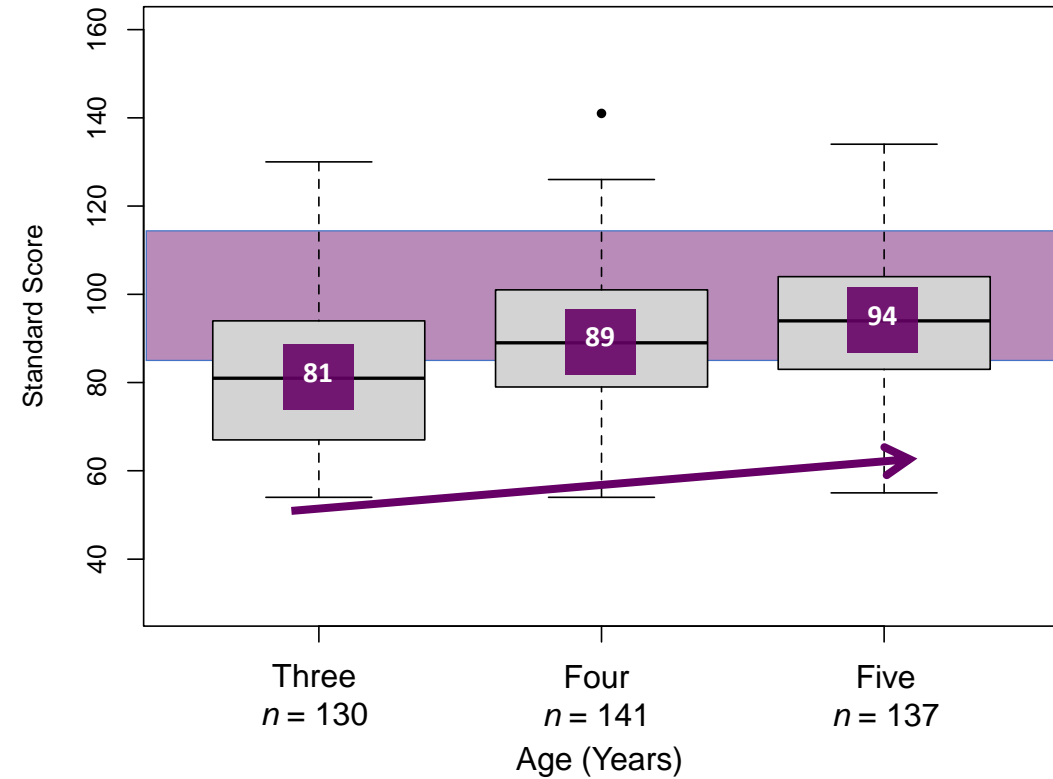
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RESULTS – Expressive Vocabulary

Performance on Expressive Vocabulary Test



Performance on Expressive One-Word Picture Vocabulary Test





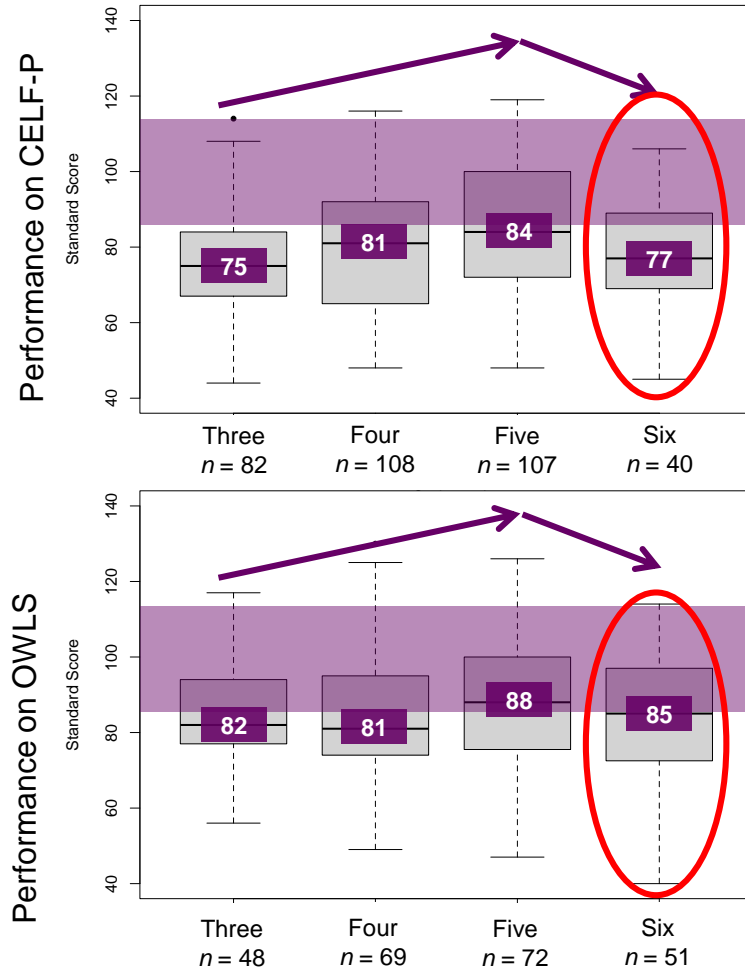
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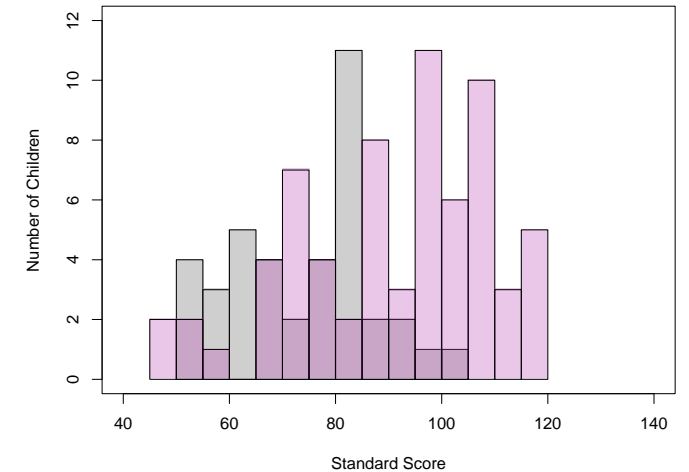
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RESULTS – Connected Language

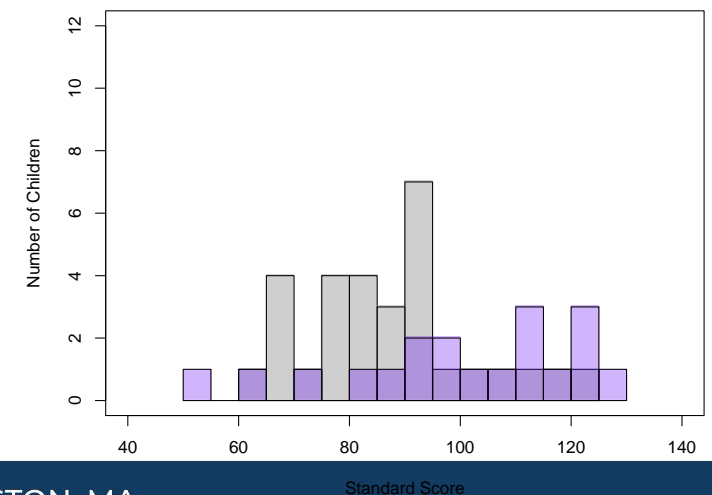


- Change in language growth trajectory from age 5 to 6 years
- Smaller sample size at 6 years compared to 5 years
- Analyses of sample at age 5, grouped by those who continued in an OPTION program (gray bar graphs), and those who graduated (colored bar graphs) were conducted
- On the CELF-P, a majority of those who graduated scored in the average range.
- Constraints on continued educational outside general education settings might be a factor.

CELF - Composite Language at 5 years



OWLS - Oral Language at 5 years





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CONCLUSIONS

- Overall, children who are DHH and attended OPTION programs in the early childhood years demonstrated growth in their receptive and expressive language.
- At five years, approximately half of the children in this sample demonstrated language proficiency in the average range, indicating readiness for transitioning to general educational settings.
- Some children had not “caught up” by age five, indicating a need for continued intervention and monitoring from qualified LSL professionals.
- Future studies will investigate:
 - Child characteristics and intervention characteristics that impact language trajectories
 - Long-term language and academic outcomes of children who graduate from OPTION programs at age five with at or near age-appropriate language proficiency



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ACKNOWLEDGEMENTS

- ❑ Children, parents, and OPTION staff members who participated in the data collection process.
- ❑ LSL-DR Investigative Team and Vanderbilt University Medical Center
- ❑ This research was supported by the Omaha Hearing School Foundation, Cochlear Americas Foundation, OPTION Schools, Inc., and the Vanderbilt Institute for Clinical and Translational Research grant support UL1 TR000445 from NCATS/NIH.

CONTACT INFORMATION



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- ❑ For additional information about our research initiatives email lsldr@optionschools.org or contact LSL-DR Project Manager, RondaRufsvold@cchatsacramento.org