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National Institute of Deafness and Other Communication Disorders

# Disclosures

- No financial relationships to disclose

# Bilateral CI vs Bimodal?

- Simultaneous bilateral cochlear implantation increasingly performed
- Assumption is that bilateral electric hearing will optimize language outcomes
- However, may have low-frequency residual hearing that could benefit from bimodal stimulation (CI with contralateral HA)

# Outline

- Present language development data from ongoing longitudinal study of children with CIs
- Review theoretical underpinnings of language development that may benefit from bimodal stimulation

# EDCHL Data

- 55 children with CIs
  - Implanted before age 3 years
  - Data collected after second grade
- 26 Bimodal - at least 1 year
- 29 CI-only
- Comprehensive evaluations of language development

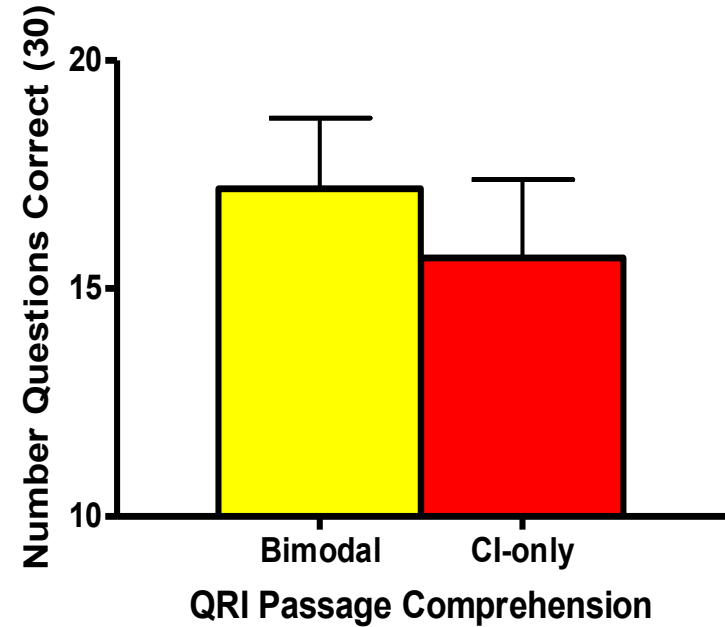
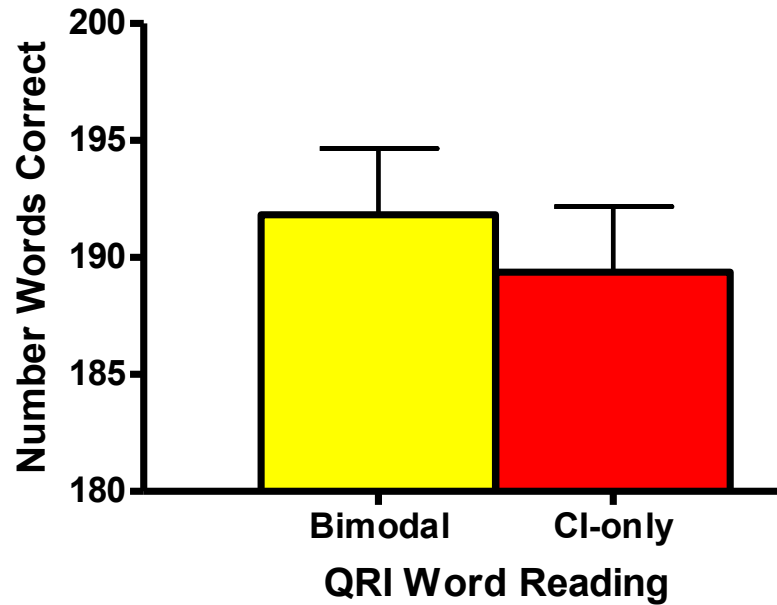


# EDCHL Data

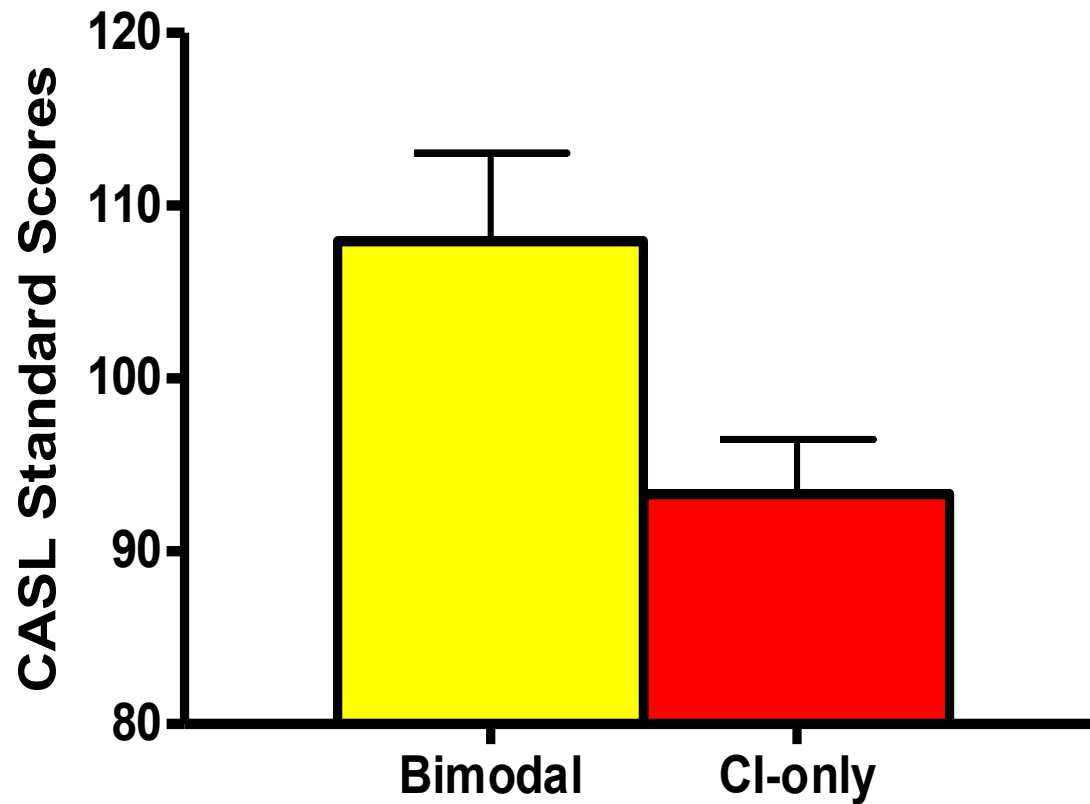


- Equivalent socioeconomic status and age of identification of hearing loss
- Age of first CI slightly later for Bimodal group
- Pre-implant PTA slightly better for the Bimodal group, but no effect of PTA on language measures

# Reading Outcomes

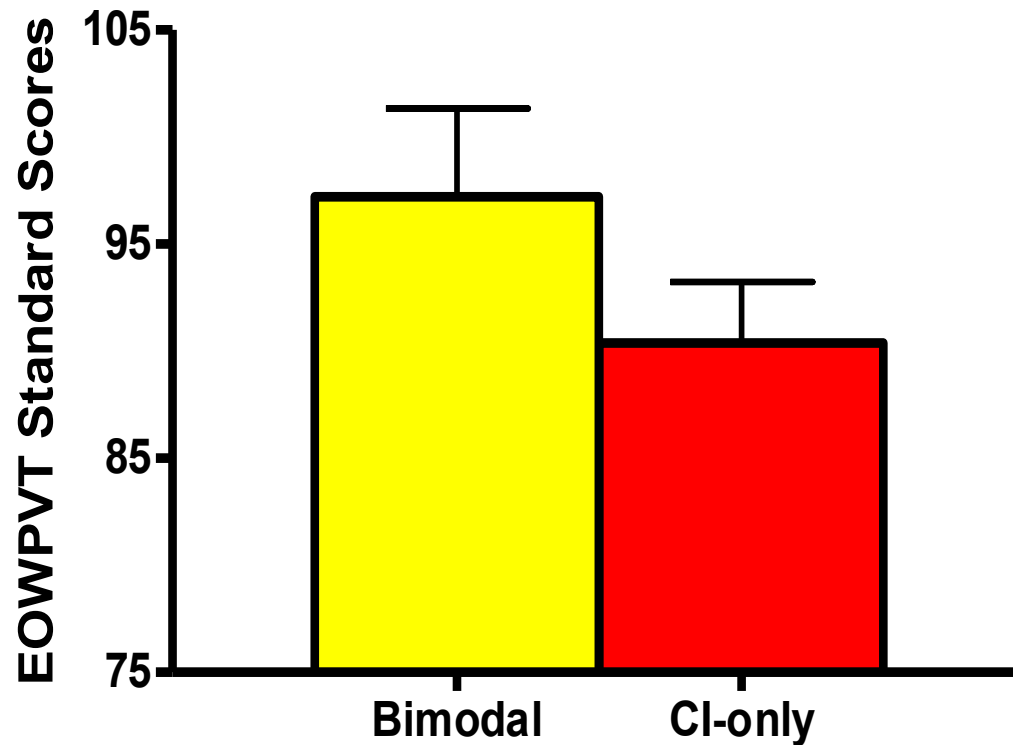


# Auditory Comprehension

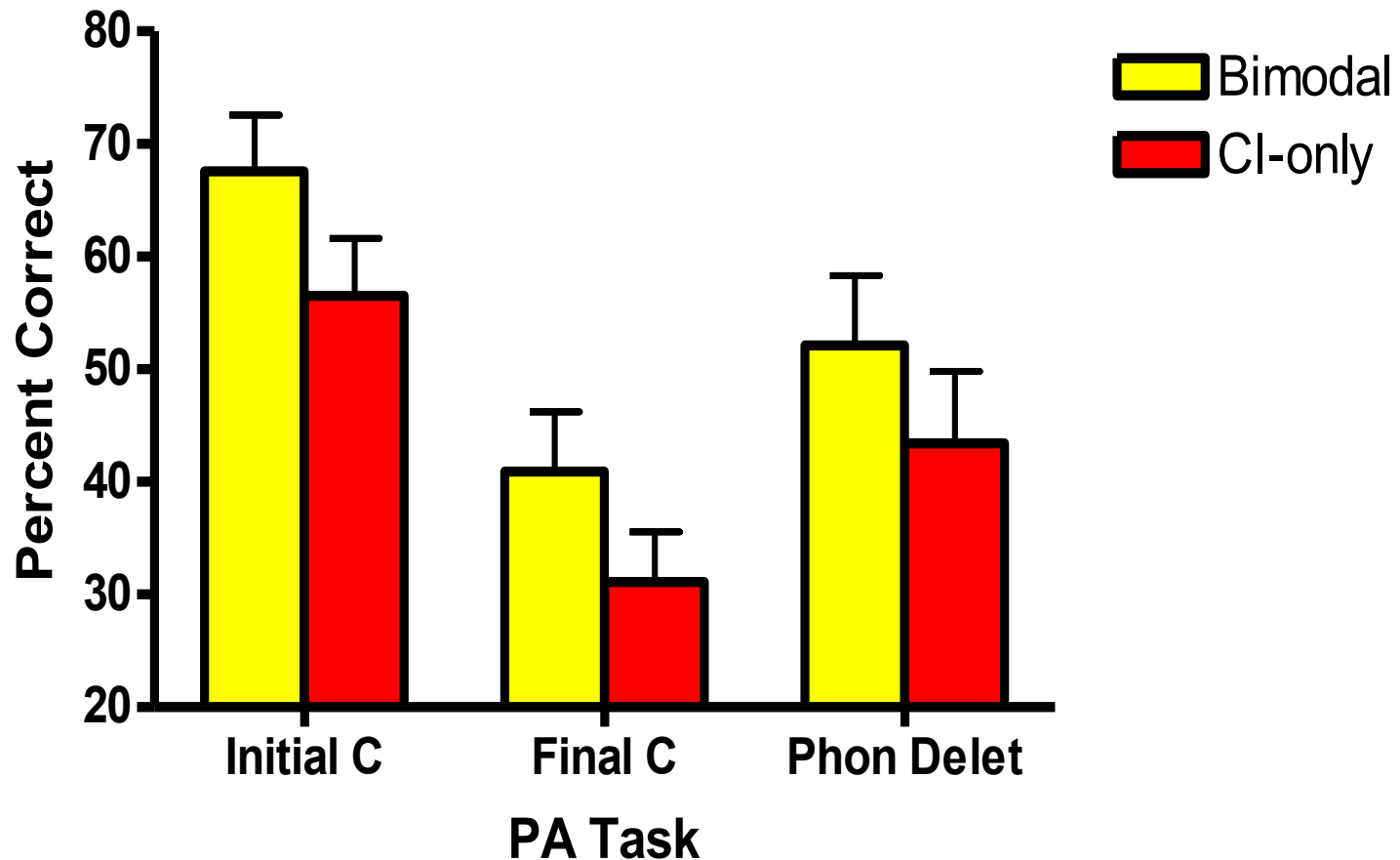




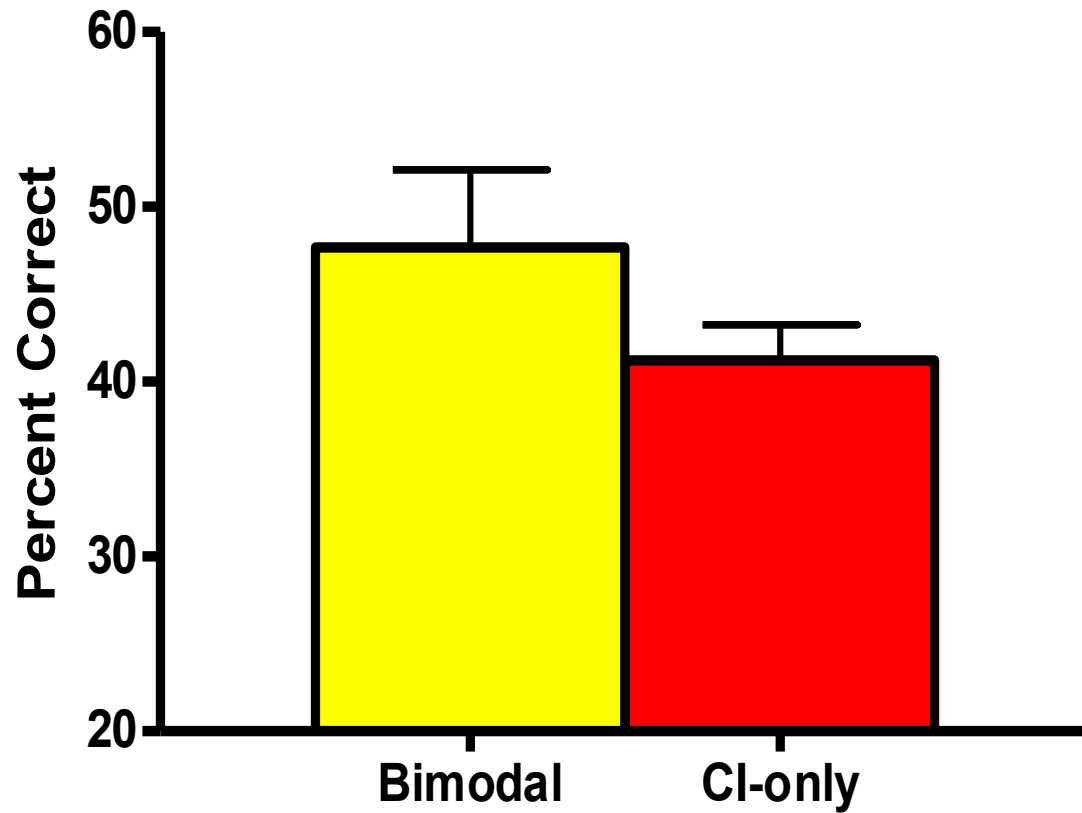
# Expressive Vocabulary



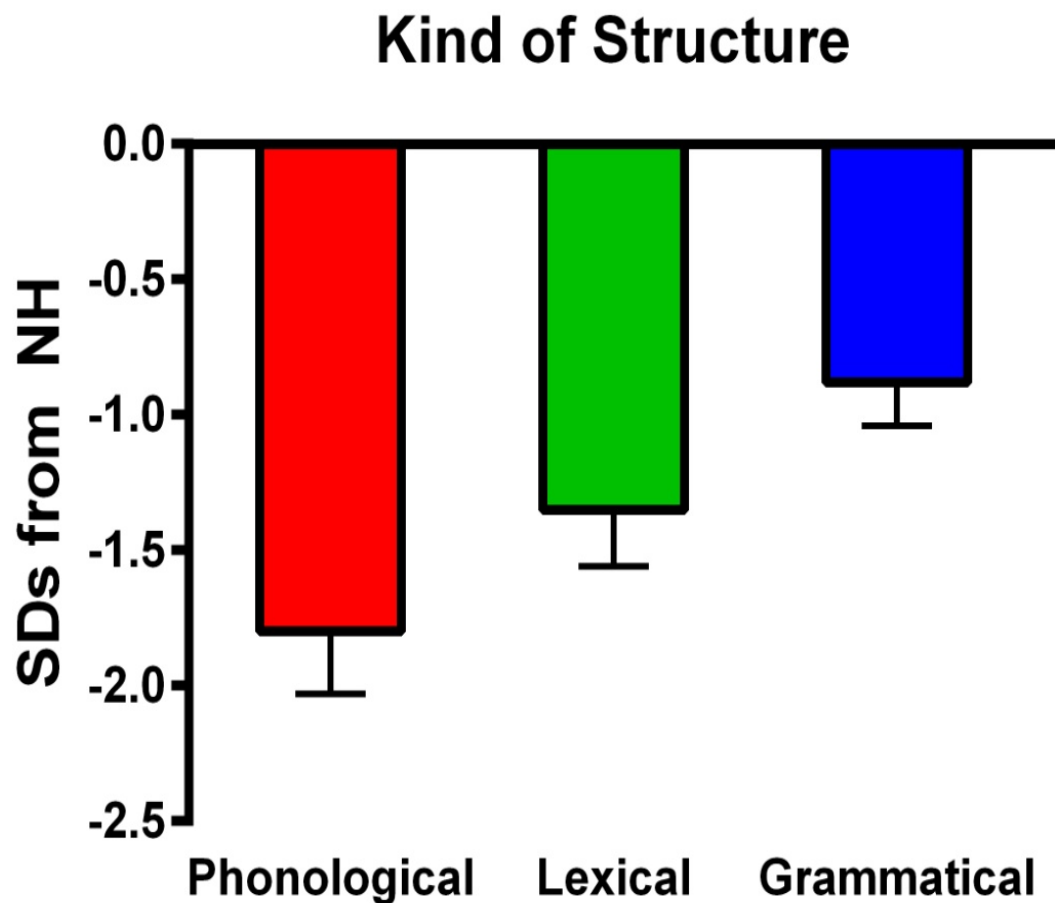
# Phonological Awareness



# Working Memory



# All CI: Latent Scores at 2<sup>nd</sup> Grade



# Bimodal vs CI-Only: Latent Scores

