THE DEVELOPMENT OF PRAGMATICS IN CHILDREN WITH HEARING LOSS

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Presentation Overview

- Background
  - Pragmatic skill development
  - Methods
- Results
  - Normal hearing data
  - Compare pragmatic skills of children with and without hearing loss
- Conclusions
- Future Directions

Research Questions

- When do children with hearing loss master specific pragmatic skills in comparison to their peers with normal hearing?

- How does development differ based on degree of hearing loss?

Pragmatics – Social Language Use

- ASHA Website:
  - Using language for different purposes
  - Changing language according to the needs of a listener or situation
  - Following rules for conversations and storytelling

Pragmatics

- Pragmatic language difficulties increase risk for victimization (Conti-Ramsden & Botting, 2004).
- Pragmatic difficulties increase risk for social and emotional deficits (Ketelaars, et al., 2009)

Hearing Loss and Pragmatics

- Children who are deaf or hard of hearing use more directive and less informative communicative functions than their normally hearing age-matched peers (Day, 1986; Nicholas, 2000; Nicholas & Geers, 1997)

Normal Hearing Group: Data Collection

- Pragmatics Checklist
  - Goberis, D., 1999, adapted from work done by Simon, C.S., 1984.
- Online version of Pragmatics Checklist created on SurveyMonkey
- Solicited participants:
  - Posted on Hand and Voices website
  - Through E-mail

Hearing Loss Group: Data Collection

- U.S. Dept. of Education
  - Office of Education #H325D030031A, H324C030074 supported research project on language acquisition of children with hearing loss
  - Parents completed a printed version of the Pragmatics Checklist
  - Children were re-assessed annually

The Pragmatic Checklist (Goberis, D., 1999)

- 45 items
- Parents are asked to indicate whether or not a skill is present by selecting from the following choices:
  - Not present
  - Preverbal
  - 1-3 words
  - Complex language

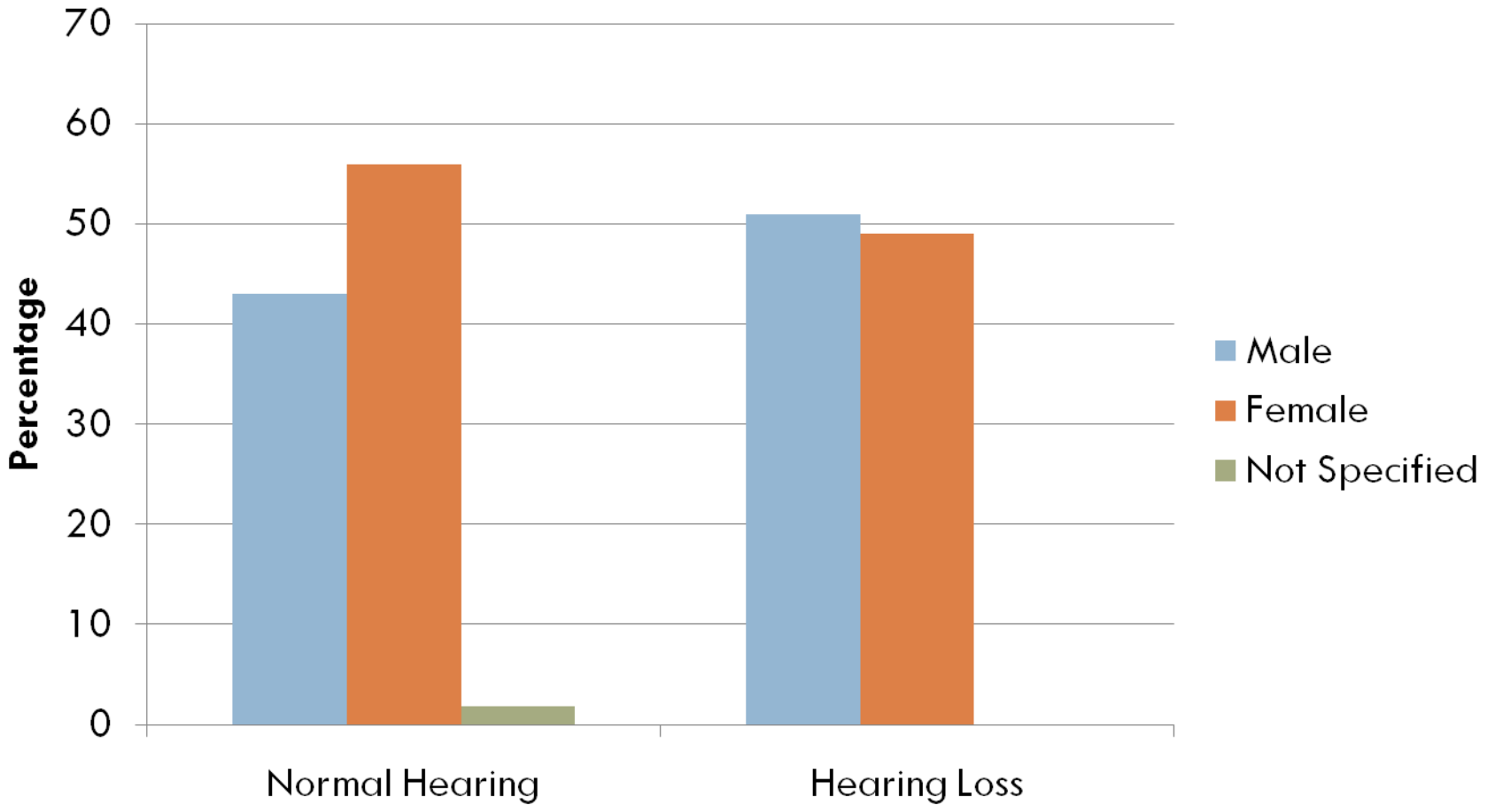
Study Participants

- Normal Hearing Group
  - N=109
  - Age Range: 2-7 years
  - Normal hearing and cognition
- Hearing Loss Group
  - N=126
  - Age Range: 3-7 years
  - All Levels of hearing loss
  - Normal cognition

Study Participants

- Children in both groups were determined to have normal cognition
  - Normal hearing group: based on parent report
  - Hearing loss group: IQ $\geq$ 70 on the Leiter non-verbal intelligence test

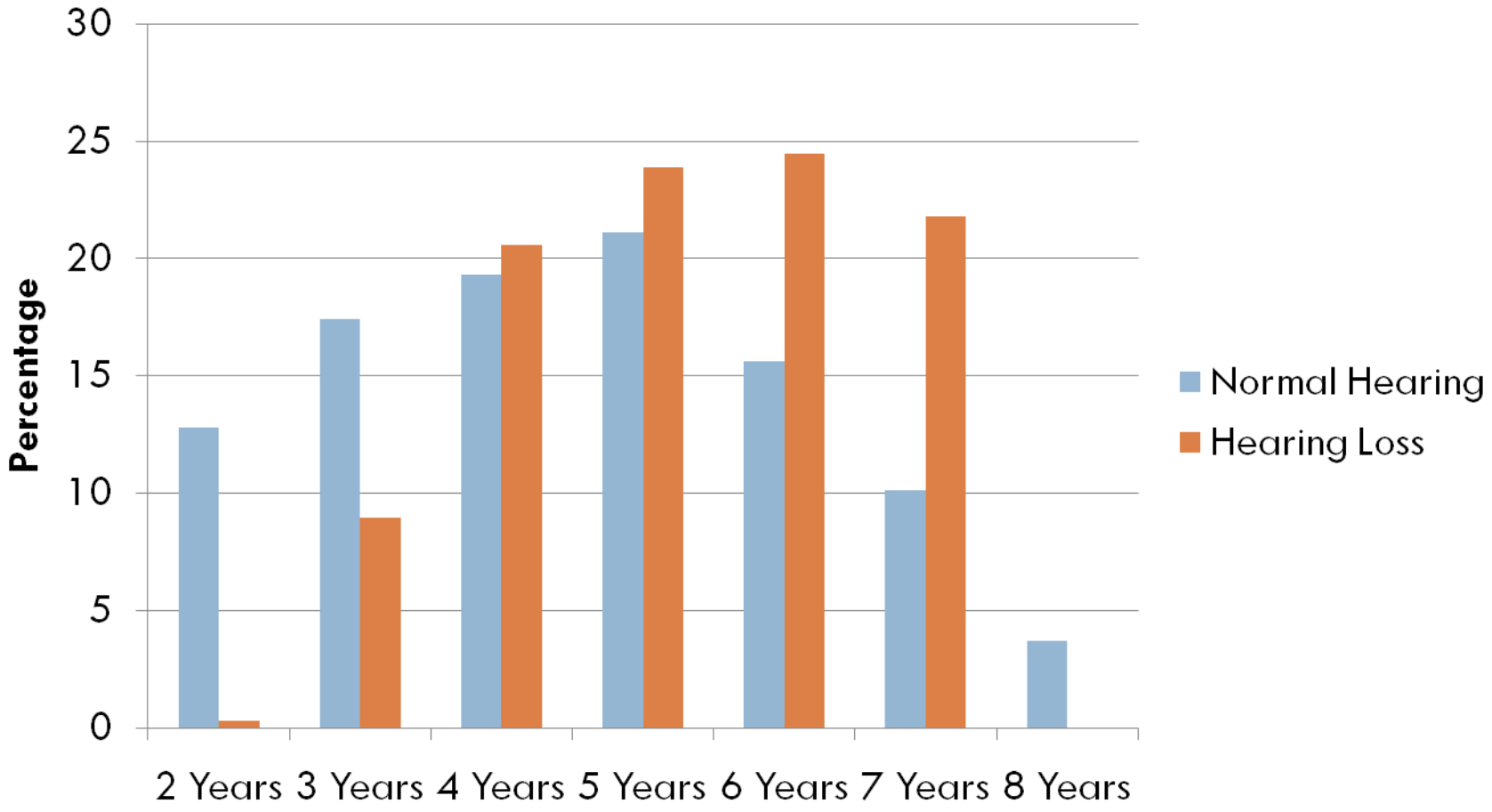
Demographics: Gender



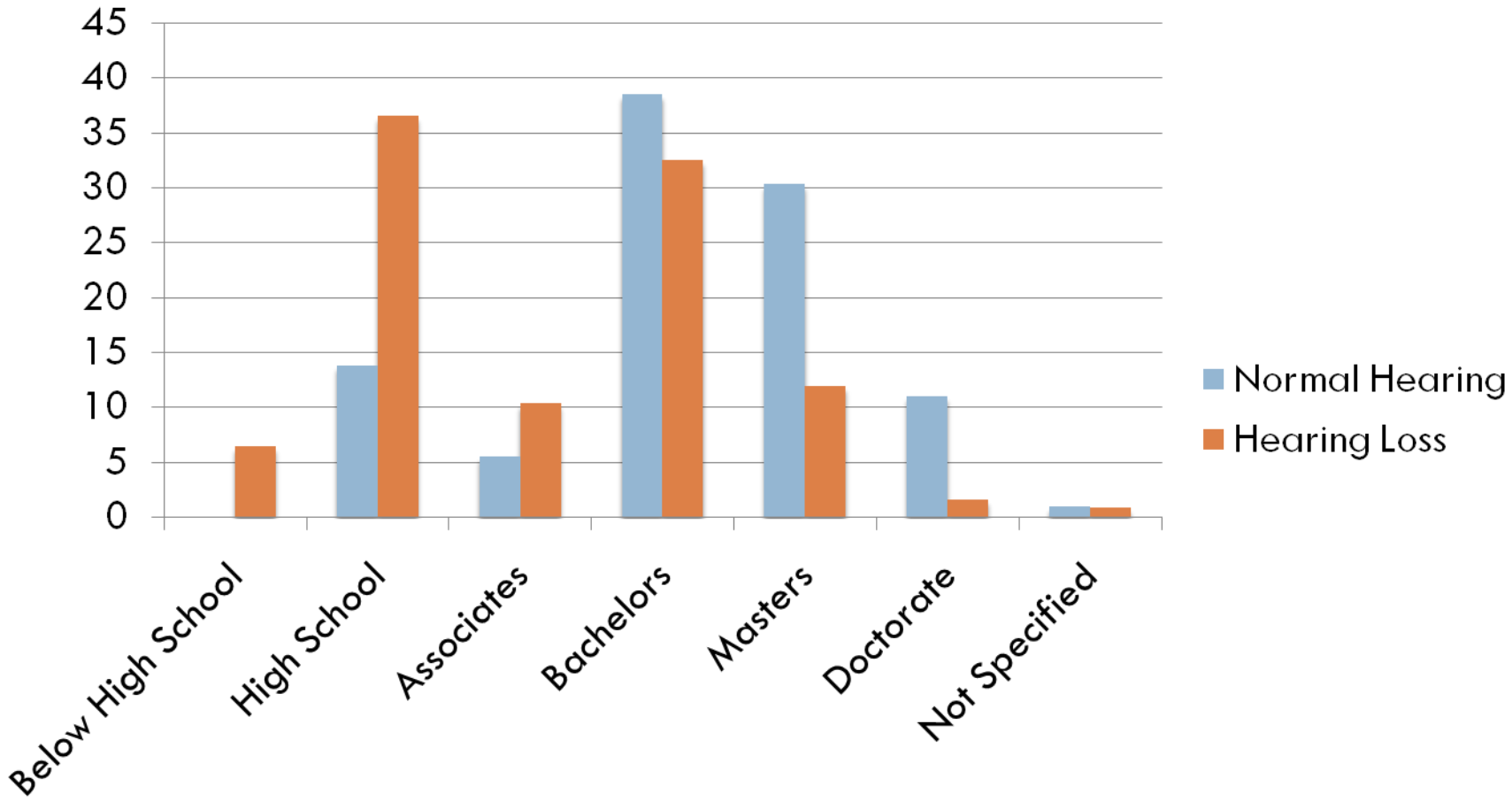
Age

Years	Age Range (Months)
2 Years	1;6-2;5 years (18-29 months)
3 Years	2;6-3;5 years (30-41 months)
4 years	3;6-4;5 years (42-53 months)
5 years	4;6-5;5 years (54-65 months)
6 years	5;6-6;5 years (66-77 months)
7 years	6;6-7;5 years (78-89 months)
8 years	7;6 + years (90+ months)

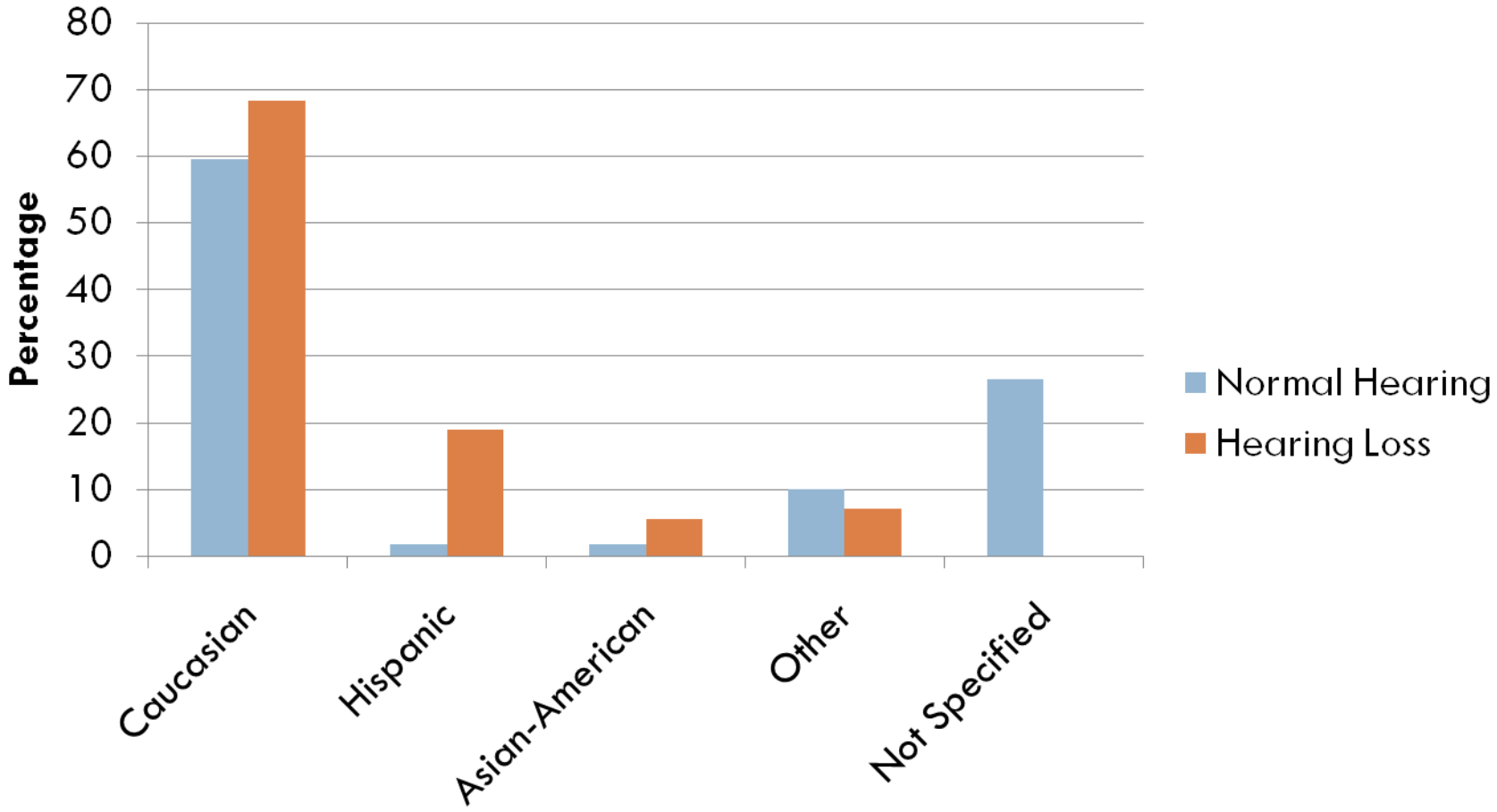
Demographics: Age



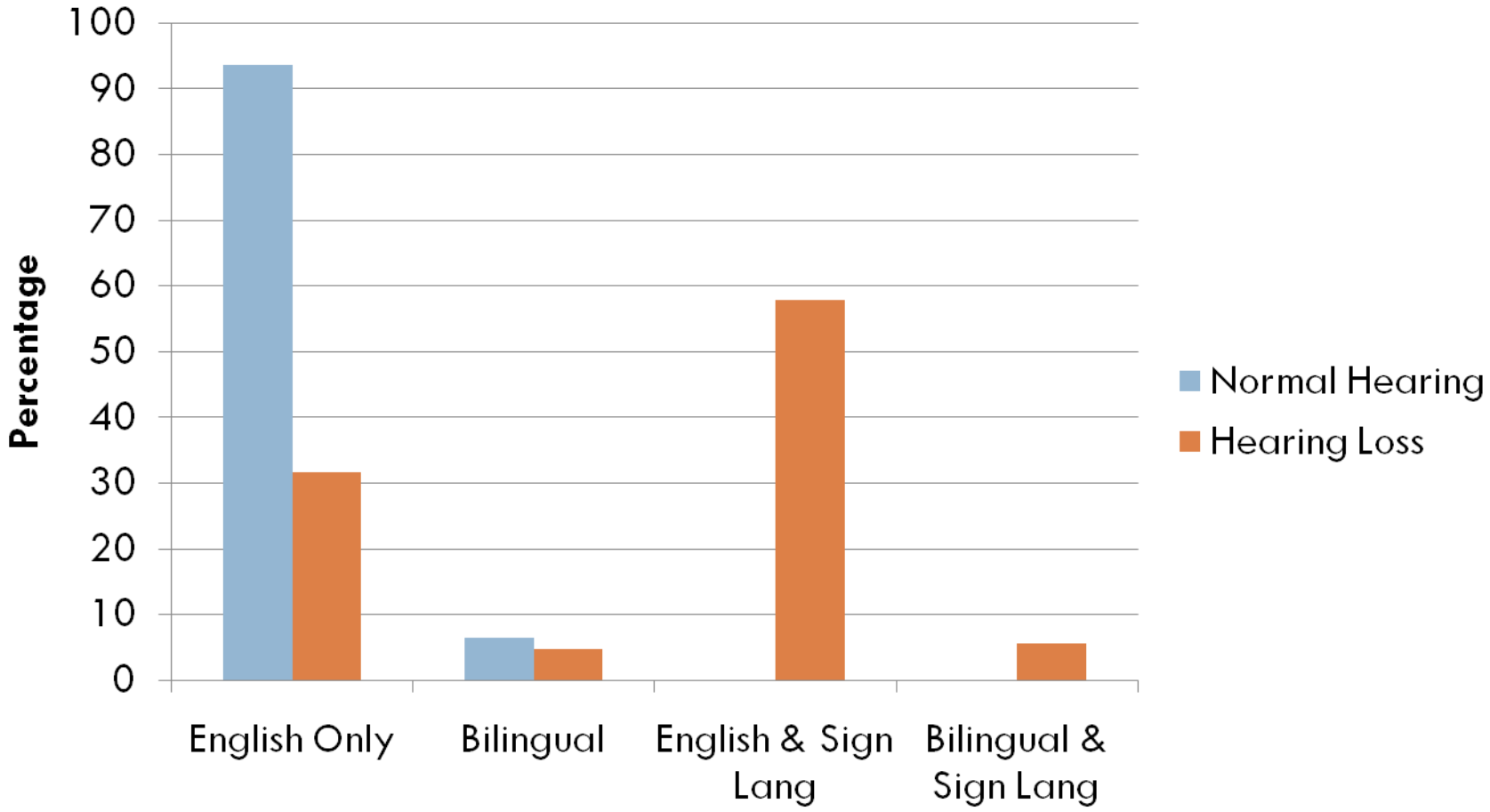
Demographics: Maternal Level of Education



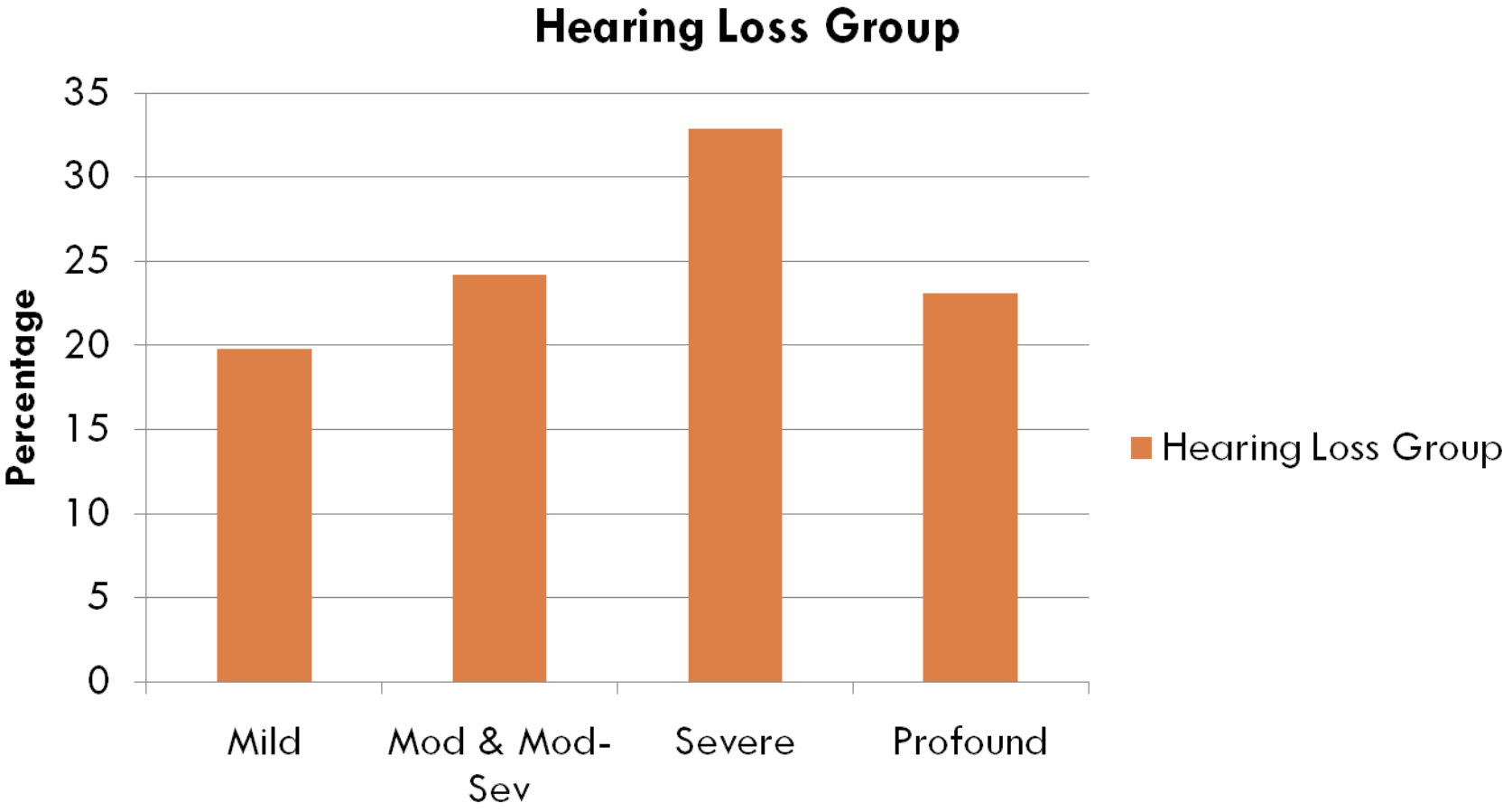
Demographics: Ethnicity



Demographics: Languages Spoken



Demographics: Degree of Hearing Loss



Mastery Criterion

- Children in age groups were determined to have "mastered" a skill with use of complex language when 75% of the children achieved the skill.

Children with Normal Hearing

- 44% (20 of 45) of the items were mastered using complex language by 3 years of age
- 95.5% (43 of 45) of the items were mastered by 4 years of age
- 98% by 5 years
- 100% by 6 years

Final Items to Master for NH group

- Provides information on request
  - Name, date of birth, address (2 of 3 items)
- Makes promises

Children with Hearing Loss

- 6.6% (3 of 45) of the items were mastered with complex language by six years of age
- 69% (31 of 45) of the items were mastered by 7 years of age

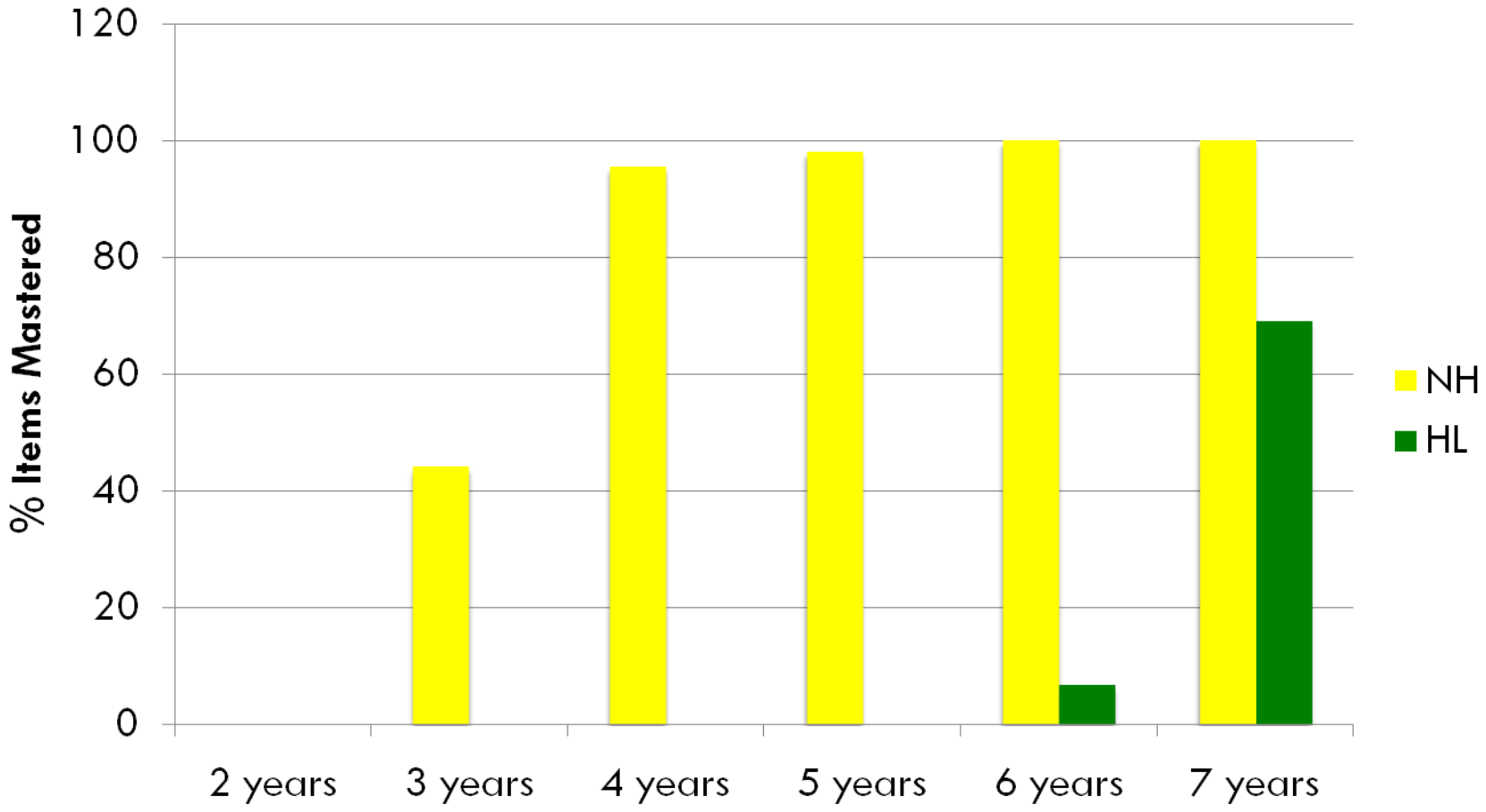
Earliest Items to Master (HL Group)

- Makes polite requests
  - Uses words: please, thank you.
- Expresses needs
- Role plays with props

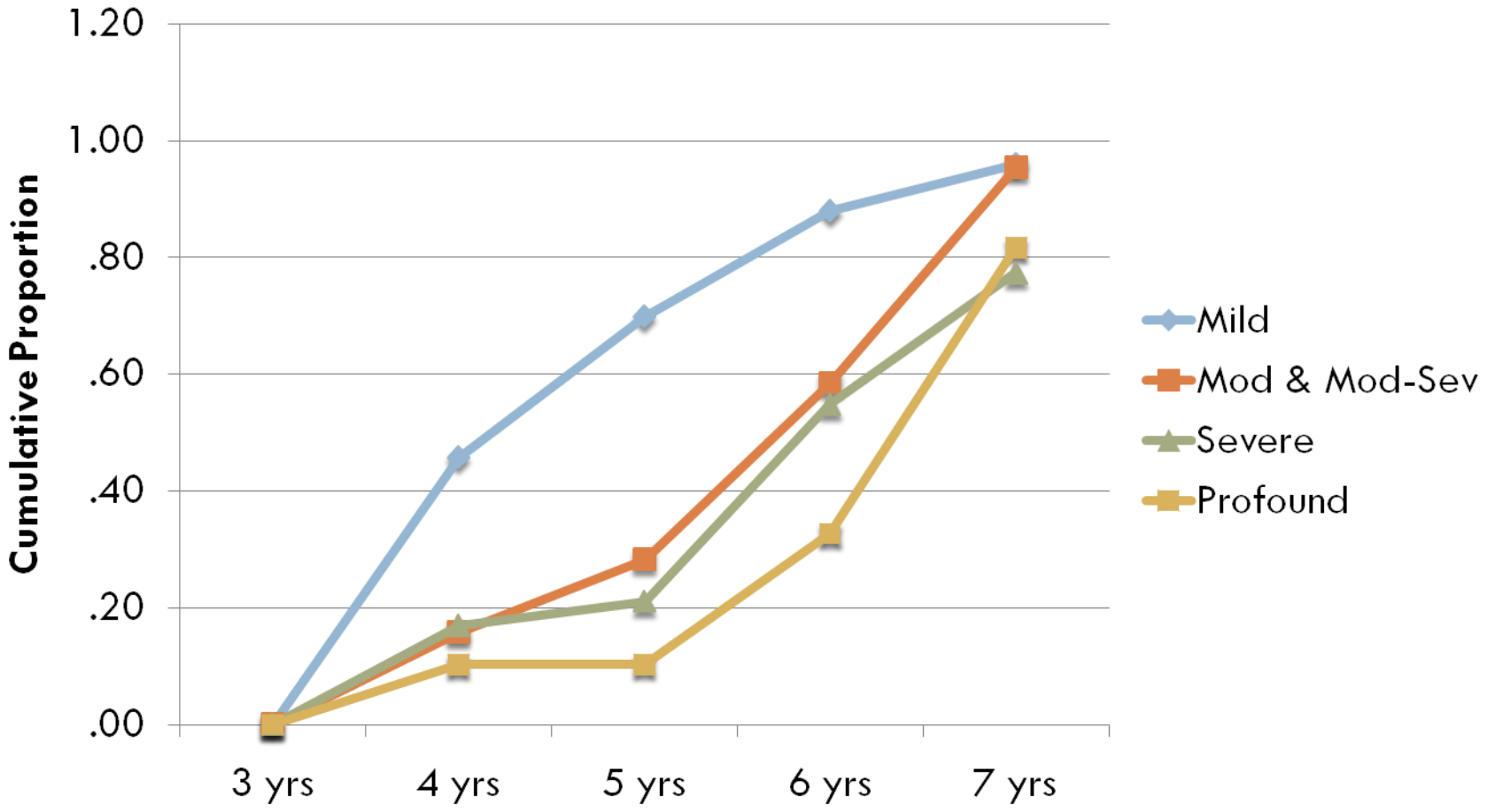
Items not Mastered by 7yrs (HL Group)

- Provides information on request
- Repairs incomplete sentences
- Ends conversations
- Interjects
- Apologies
- Request clarification
- Makes promises
- Ask questions to problem solve
- Asks questions to make predictions
- Retells a story
- Tells 4-6 picture story in right order
- Creates original story
- Explains relationships between objects-action-situations
- Compares and contrasts

Percentage of Items Mastered by Age for NH and HL groups



The proportion achieving 50% or more of the items with complex language



Conclusion

- Children who are deaf or hard of hearing begin to master pragmatic skills at 6 years of age; 3-year-old peers with normal hearing have already mastered nearly half of the checklist skills.
- By age 7, children who are deaf or hard of hearing have mastered approximately 2/3 of the checklist skills; almost all of the skills are mastered by hearing children by age 4.

Future Directions

- Larger sample of normal hearing with better matched experimental and control groups
  - Maternal level of education
  - Age
- Need to support pragmatic skill development in children with hearing loss to reduce risk for socio-emotional deficits and victimization.

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