

# The Auditory Skills of DHH Children

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# Purpose

- To determine the auditory skills of children with hearing loss compared to typically-hearing children



# The Children

Group	Number (n)
No hearing loss*	30
High frequency	13
Mild	59
Moderate	56
Moderate-Severe	15
Severe	19
Profound (CI)	25

# The Questionnaire

Date of Visit: \_\_\_\_\_ Name: \_\_\_\_\_

Amplification Device: \_\_\_\_\_ Date of Birth: \_\_\_\_\_

Amplification Date: \_\_\_\_\_ Identification Number: \_\_\_\_\_

S = has skill E = emerging skill D = doesn't have skill

DETECTION			
Does your child...	H	O	
1 wear the amplification device during his/her waking hours?			
2 use body language to indicate when something is heard (ex. Tim head, and/or eye widening, quiet, stop action, changes facial expressions)?			
3 show awareness (turns to the sound source, starts or quits in response to loud sound) of loud environmental sounds (ex. dog barking)?			
4 show awareness of soft environmental sounds (ex. microwave beep, clock ticking)?			
5 show awareness of voices, spoke at typical loudness levels?			
6 detect the Ling Six Sounds (M, AH, OO, E, SH, S)?			
7 detect the speaker's voice when background noise is present?			
8 search to find out where a sound is coming from?			
9 localize correct sound source (to the direction the sound is coming from)?			

DISCRIMINATION			
Does your child...	H	O	
10 discriminate the voice of a speaker talking and sounds in his/her environment?			
11 discriminate different types of environmental sounds (ex. dog barking versus a telephone ringing)?			
12 discriminate a speaker using a soft voice (whisper) and a loud voice (conversational level)?			
13 discriminate a person singing (ex. "Happy Birthday") from a person having a conversation?			
14 discriminate family members voices (ex. Dad's voice versus Mom's voice versus a sibling's voice)?			
15 discriminate minimal pair words (Similar sounding words such as pet, bat, and mat)?			
16 discriminate similar sounding phrases and sentences (ex. "how old are you?" versus "how are you?")?			

Auditory Skills Checklist

S = has skill E = emerging skill D = doesn't have skill

IDENTIFICATION			
Does your child...	H	O	
17 identify his/her name when called?			
18 identify an item with an associated sound (ex. a train goes choo choo)?			
19 identify one-syllable words versus two and three-syllable words (ex. ball vs. holding vs. computer)?			
20 understand if the speaker is happy, angry, or surprised by the change in their vocal tones?			
21 identify or recognize commonly used words (varies from child to child)?			
22 identify the Ling Six Sounds (M, AH, OO, E, SH, S)?			
23 identify familiar songs (ex. "Happy birthday", "Icy Bibby Spider", "Old McDonald")?			

COMPREHENSION			
Does your child...	H	O	
24 follow one-step directions (ex. "Get your shoes.")?			
25 follow two-step directions (ex. "Get your shoes and open the door.")?			
26 follow three-step directions (ex. "Get your shoes, open the door, and walk outside.")?			
27 have an auditory memory for # ___ items ( ex. being able to remember boat, apple, cup, and shoe would be 4 items)?			
28 have an auditory memory for phrases/sentences (ex. "The girl jumped over the fence to get the ball.")?			
29 auditory sequence a story with ___3 events, ___4 events, ___4+events (ex. 1 <sup>st</sup> event = Steve went to the store; 2 <sup>nd</sup> event = He bought dog bones; 3 <sup>rd</sup> event = Steve took the bones home to the dog)?			
30 understand the question forms ___What, ___Where, ___Who, ___Why, ___When (ex. "Where is the dog?"; "Who broke the cup?")?			
31 understand concepts in phrases and sentences (ex. in, under, between, in front)?			
32 understand the use of negatives in phrases and sentences (ex. no, not, no more)?			
33 understand frequently heard phrases/sentences (ex. "Brush your teeth and get ready for bed.")?			
34 acquire information incidentally through audition alone?			
35 understand most of what is said through audition alone?			

# The Questionnaire

- Designed to identify the auditory skills of children in four domains

- Detection – 8
- Discrimination – 7
- Identification – 7
- Comprehension – 12

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S = has skill E = emerging skill D = doesn't have skill

DETECTION		
Does your child...	H	O
1 wear the amplification device during his/her waking hours?		
2 use body language to indicate when something is heard (ex. Turn head, nod/or eye widening, quirk/s, slope action, changes facial expressions)?		
3 show awareness (turns to the sound source, alerts or quirts in response to loud sound) of loud environmental sounds (ex. dog barking)?		
4 show awareness of soft environmental sounds (ex. microwave beep, clock ticking)?		
5 show awareness of voices, spoils at typical loudness levels?		
6 detect the Ling Six Sounds (M, AH, OO, E, SH, S)?		
7 detect the speaker's voice when background noise is present?		
8 search to find out where a sound is coming from?		
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13 discriminate a person singing (ex. "Happy Birthday") from a person having a conversation?		
14 discriminate family member voices (ex. Dad's voice versus Mom's voice versus a sibling's voice)?		
15 discriminate minimal pair words (Similar sounding words such as pat, bat, and mat)?		
16 discriminate similar sounding phrases and sentences (ex. "How old are you?" versus "How are you?")		

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IDENTIFICATION		
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19 identify one-syllable words versus two and three-syllable words (ex. ball vs. holding vs. computer)?		
20 understand if the speaker is happy, angry, or surprised by the change in his vocal tones?		
21 identify or recognize commonly used words (verbal from child to child)?		
22 identify the Ling Six Sounds (M, AH, OO, E, SH, S)?		
23 identify familiar songs (ex. "Happy Birthday," "The Wiggly Song," "Old MacDonald")?		

COMPREHENSION		
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24 follow one-step directions (ex. "Get your shoes.")?		
25 follow two-step directions (ex. "Get your shoes and open the door.")?		
26 follow three-step directions (ex. "Get your shoes, open the door, and walk outside.")?		
27 have an auditory memory for 4 items (ex. being able to remember food, apple, cup, and shoe would be 4 items)?		
28 have an auditory memory for phrases/sentences (ex. "The girl jumped over the fence to get the ball.")?		
29 audibly sequence a story with 3 events, 4 events, 4+events (ex. "I found a bone and took it to the store, I found a bone and took it to the store, I found a bone and took it to the store.")?		
30 understand the question forms "What," "Where," "Who," "Why," "When" (ex. "Where is the dog?", "Who broke the cup?")?		
31 understand concepts in phrases and sentences (ex. in, under, between, in front)?		
32 understand the use of negatives in phrases and sentences (ex. no, not, no more)?		
33 understand frequently heard phrases/sentences (ex. "Brush your teeth and get ready for bed.")?		
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# The Questionnaire

- Points are given per question for a total max of 70
- 2 points = child has skill
- 1 point = skill is emerging
- 0 points = child does not have skill

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30 understand the question forms "What", "Where", "Who", "Why", "When" (ex. "Where is the dog?", "Who broke the cup?")?		
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35 understand most of what is said through audition alone?		

# The Questionnaire

- Originally used to determine skill progression in children with cochlear implants
  - Based on months post implant



Kirsten

# The Questionnaire

- Originally used to determine skill progression in children with cochlear implants
  - Based on months post implant
- But we use it for all DHH children



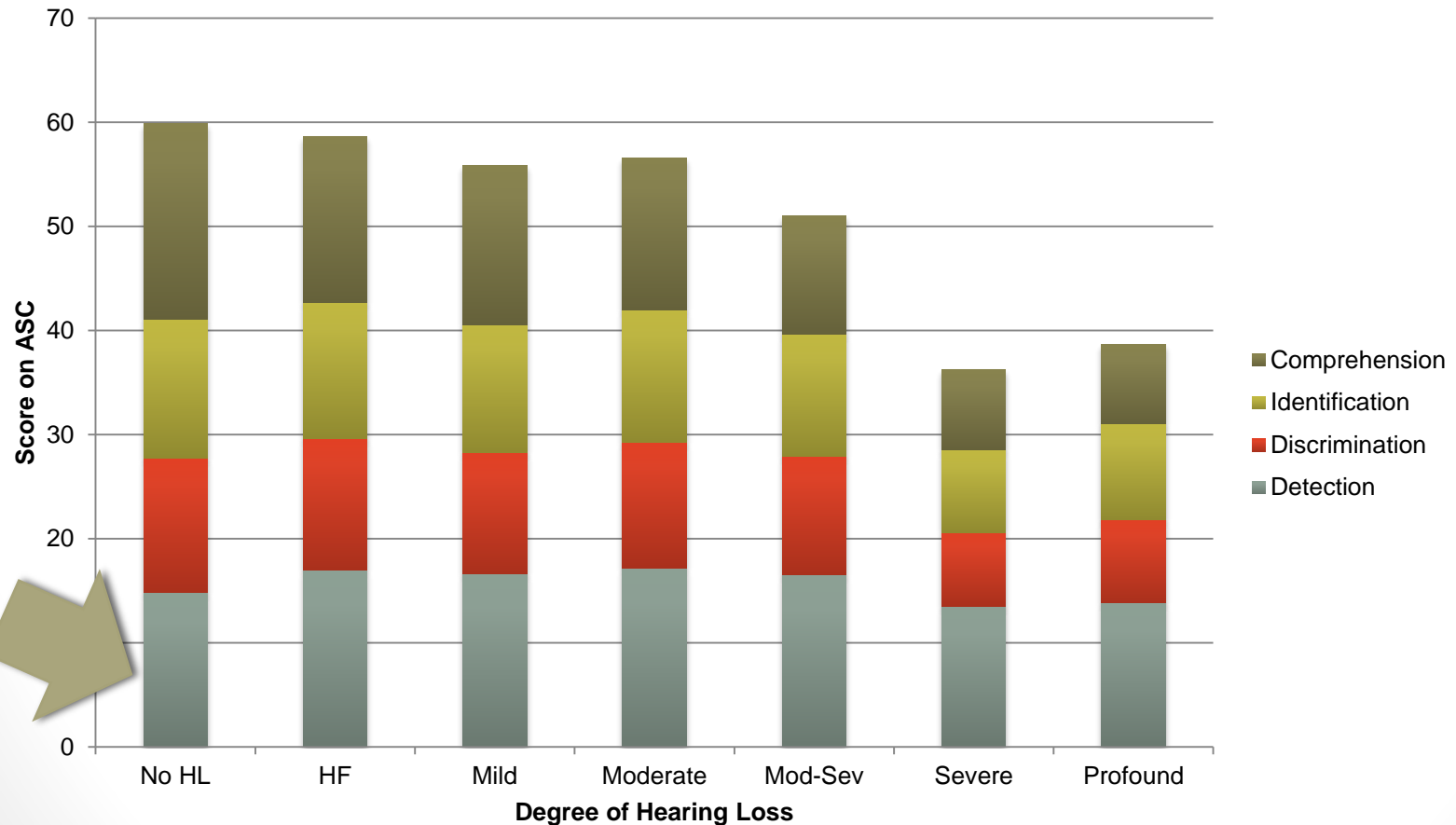
Mary





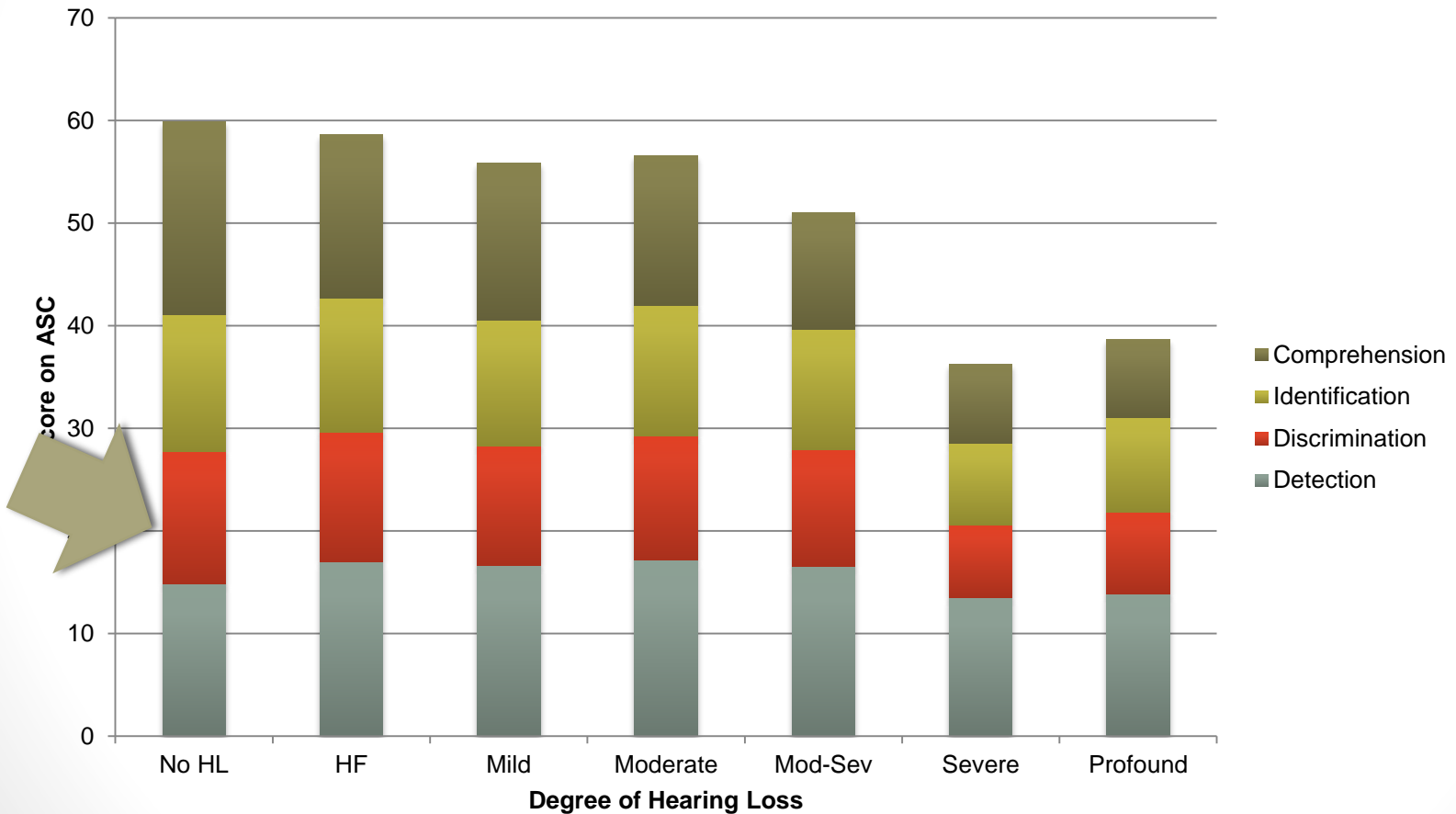
# The Results

## Subscale Scores on the ASC



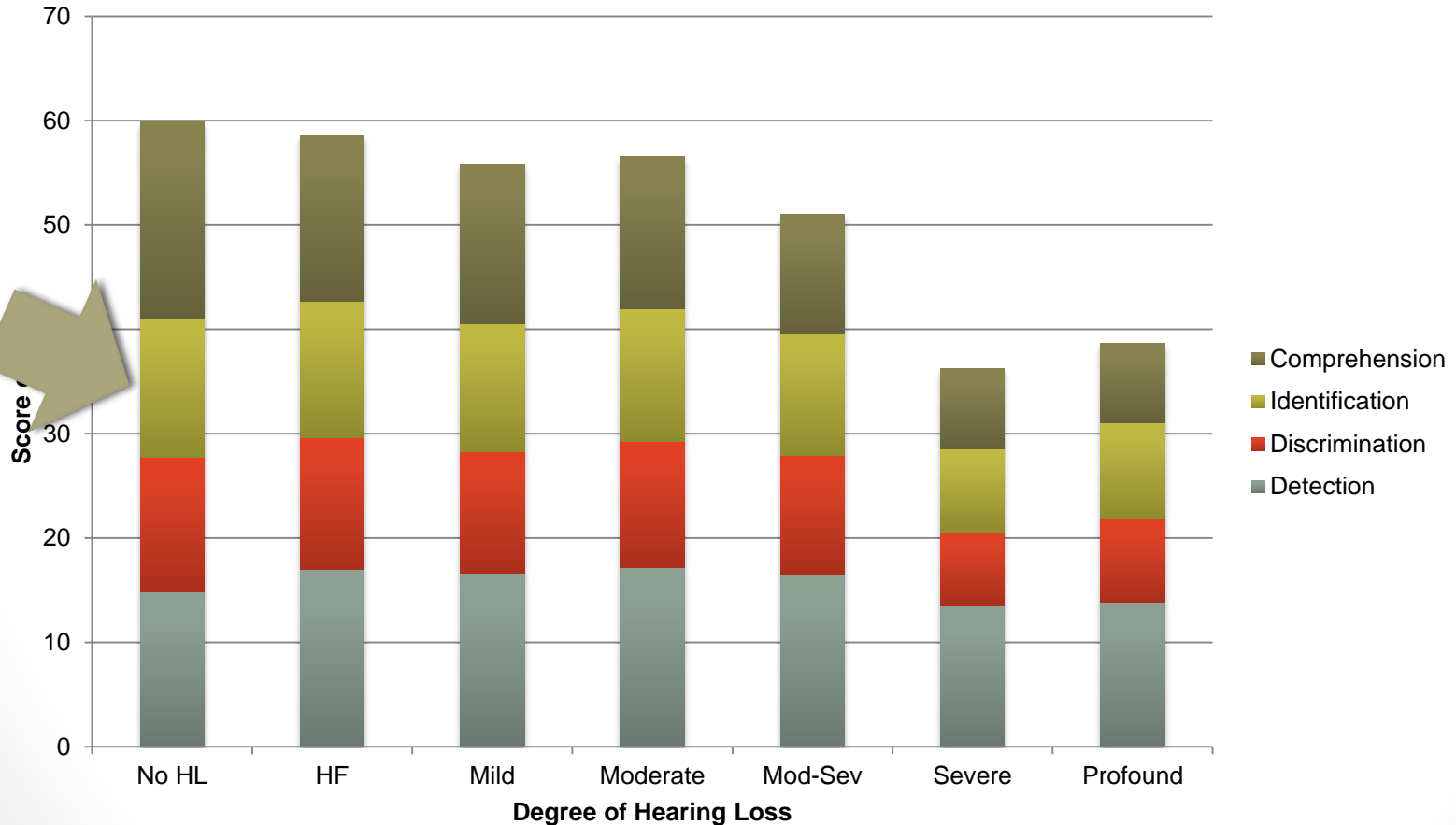
# The Results

## Subscale Scores on the ASC



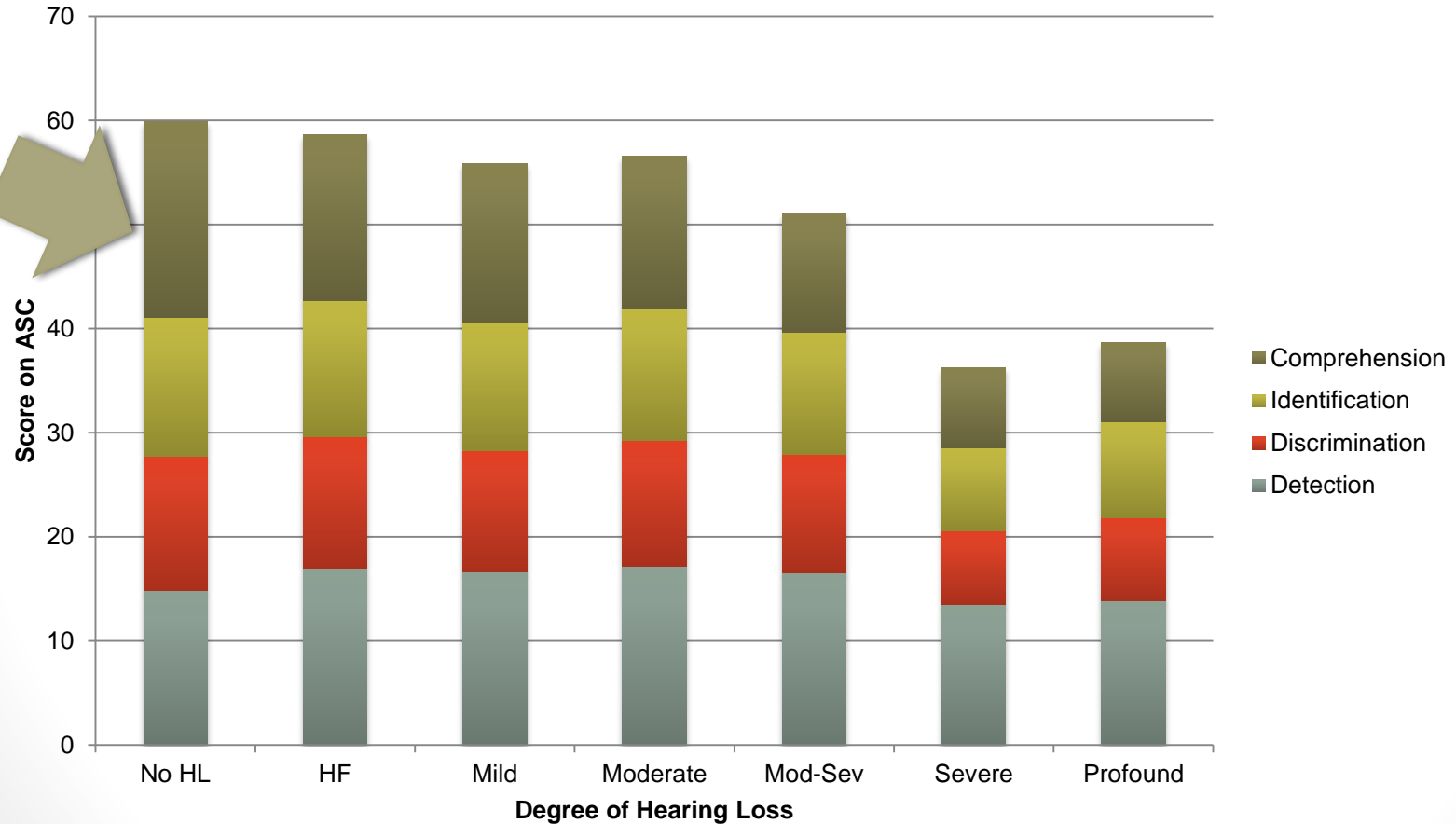
# The Results

## Subscale Scores on the ASC



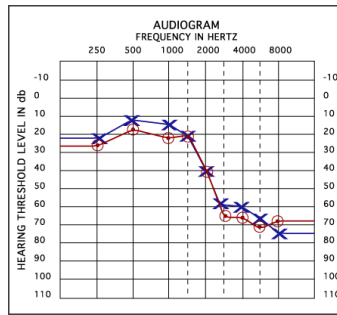
# The Results

## Subscale Scores on the ASC



# The Implications

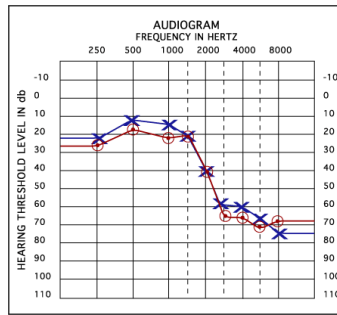
- Typically developing children achieve the highest scores overall



Kelly

# The Implications

- Typically developing children achieve the highest scores overall
- As hearing loss increases, scores on the ASC decrease



# The Implications

- Typically developing children achieve the highest scores overall
- As hearing loss increases, scores on the ASC decrease
- All children do better on the basic skills than they do on the higher-order skills

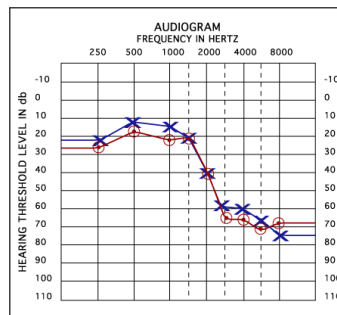
Difficulty



- Detection
- Discrimination
- Identification
- Comprehension



Bri's fiancé



# Other Directions

- Maternal Level of Education
- Developmental Quotient



Waker



Hazel



# Other Directions

- Maternal Level of Education
- Developmental Quotient
- English vs. Spanish



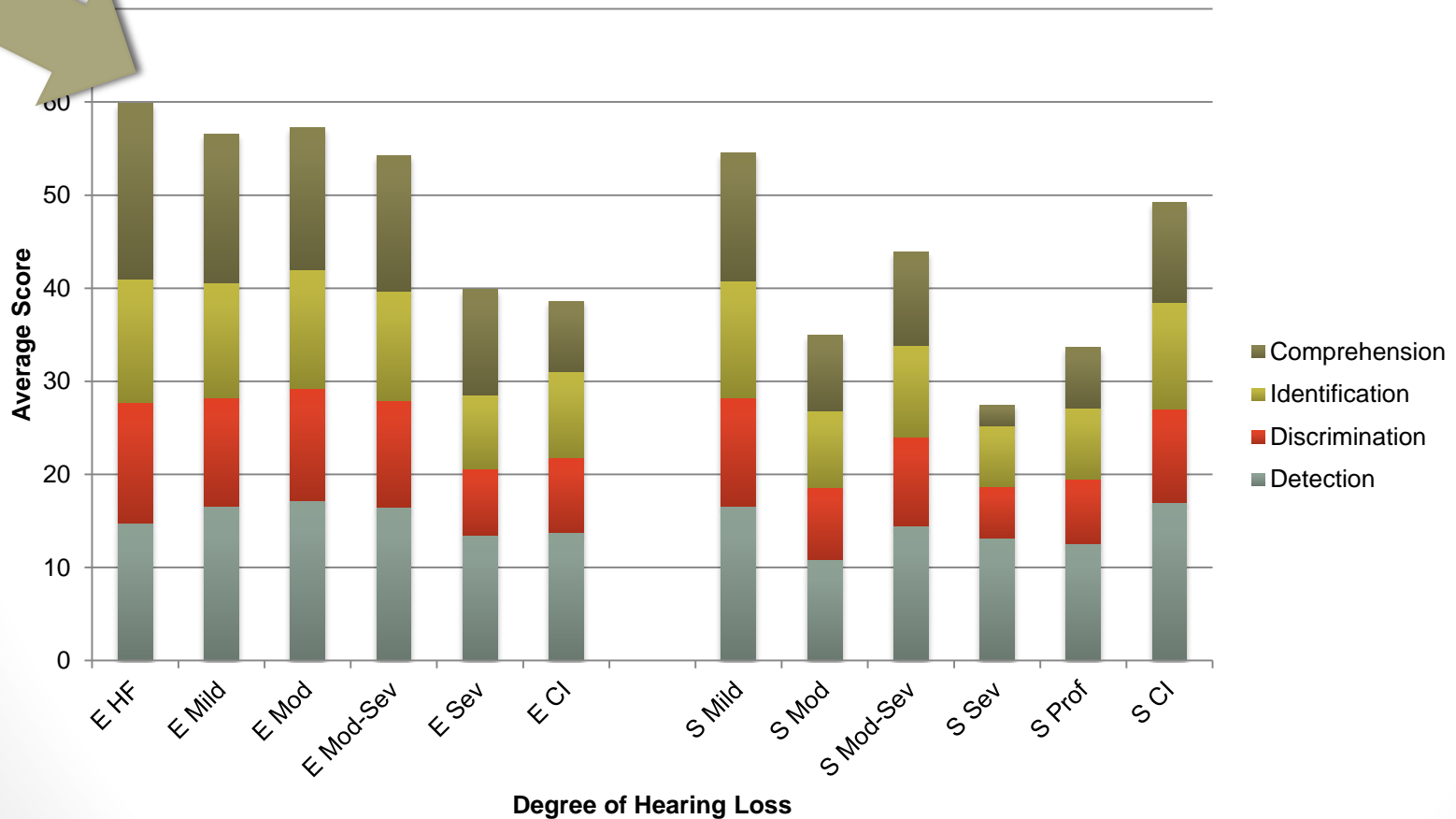
Joy



Kellie

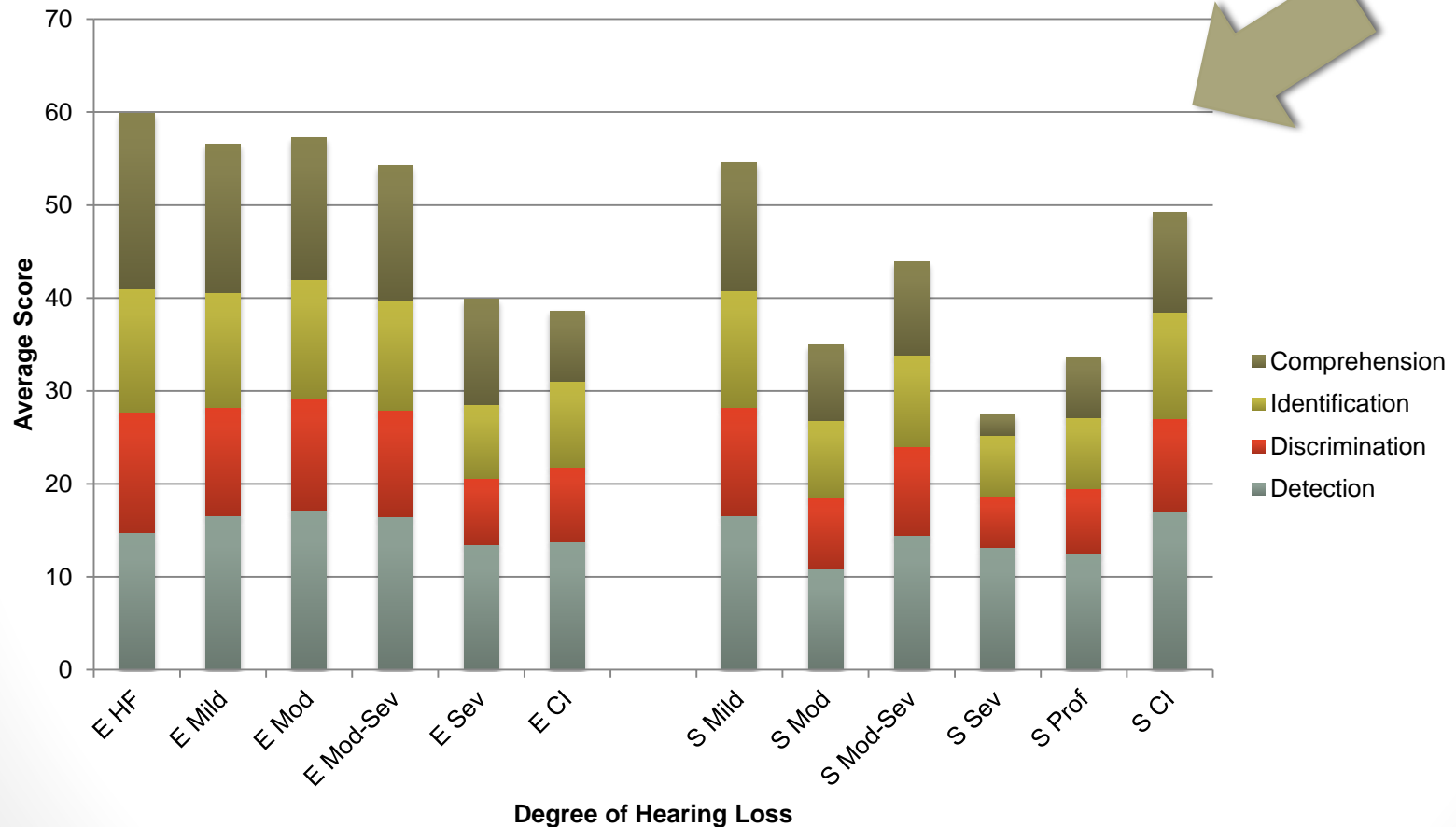
# A Segue...

## English- and Spanish-Speaking Auditory Skills



# A Segue...

## English- and Spanish-Speaking Auditory Skills



# References

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