



# The Perceptions of Hearing Classifications as Determined by Audiologists

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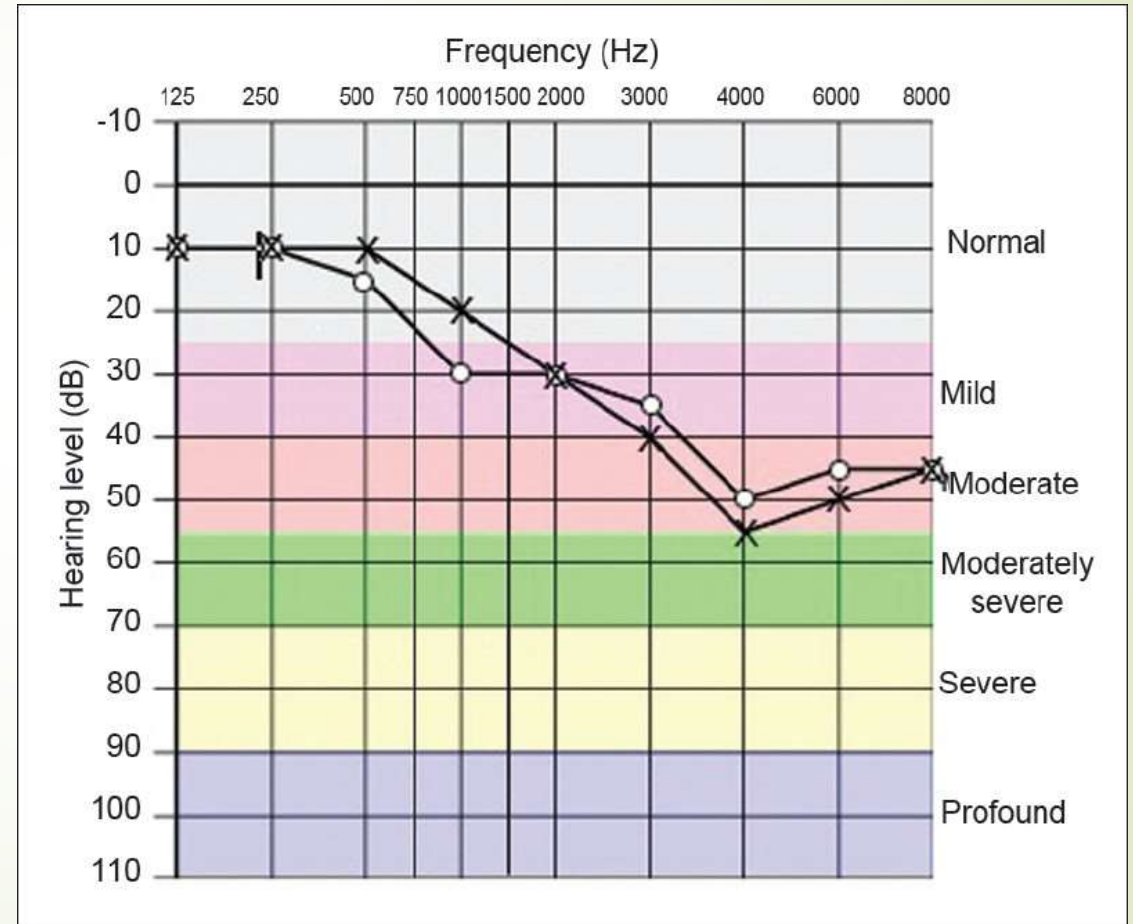
Speech, Language, and Hearing Sciences

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# Hearing Loss

- ▶ Testing
  - ▶ Air Conduction
  - ▶ Bone Conduction
- ▶ Types of Hearing Loss
  - ▶ Sensorineural
  - ▶ Conductive
  - ▶ Mixed





# Background

- ▶ Multiple scales report degree of hearing loss
  - ▶ Same terminology with no standardized definitions
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<b>Goodman (1965)</b>	<b>Kaplan, Gladstone, &amp; Lloyd (1978)</b>	<b>Jerger and Jerger (1980)</b>	<b>Northern and Downs (2002)</b>	<b>Gelfand (2009)</b>	<b>Clark (1981)</b>
Normal hearing -10 to 26 dB HL	Normal Hearing -10 to 15 dB HL	Normal Hearing 0 to 20 dB HL	Normal hearing 0 to 15 dB HL	Normal Hearing -10 to 15 dB HL	Normal Hearing -10 to 15 dB HL
	Slight Hearing Loss 16 to 25 dB HL		Slight Hearing Loss 15 to 25 dB HL	Slight Hearing Loss 16-25 dB HL	Slight Hearing Loss 16-25 dB HL
Mild Hearing Loss 27 to 40 dB HL	Mild Hearing Loss 26 to 40 dB HL	Mild Hearing Loss 20 to 40 dB HL	Mild Hearing Loss 25 to 30 dB HL	Mild Hearing Loss 26 to 40 dB HL	Mild Hearing Loss 26 to 40 dB HL
Moderate Hearing Loss 41 to 55 dB HL	Moderate Hearing Loss 41 to 55 dB HL	Moderate Hearing Loss 40 to 60 dB HL	Moderate Hearing Loss 30 to 50 dB HL	Moderate Hearing Loss 41 to 55 dB HL	Moderate Hearing Loss 41 to 55 dB HL
Moderately- severe Hearing Loss 56 to 70 dB HL	Moderately severe hearing loss 56 to 70 dB HL			Moderately Severe Hearing Loss 56 to 70 dB HL	Moderately Severe Hearing Loss 56 to 70 dB HL
Severe Hearing Loss 71 to 90 dB HL	Severe hearing loss 71 to 90 dB HL	Severe Hearing Loss 60 to 80 dB HL	Severe Hearing Loss 50 to 70 dB HL	Severe Hearing Loss 71 to 90 dB HL	Severe Hearing Loss 71 to 90 dB HL
Profound hearing loss >90 dB HL	Profound Hearing Loss > 91 dB HL	Profound Hearing Loss >80 dB HL	Profound Hearing Loss >70 dB HL	Profound Hearing Loss 91+ dB HL	Profound Hearing Loss 91+ dB HL



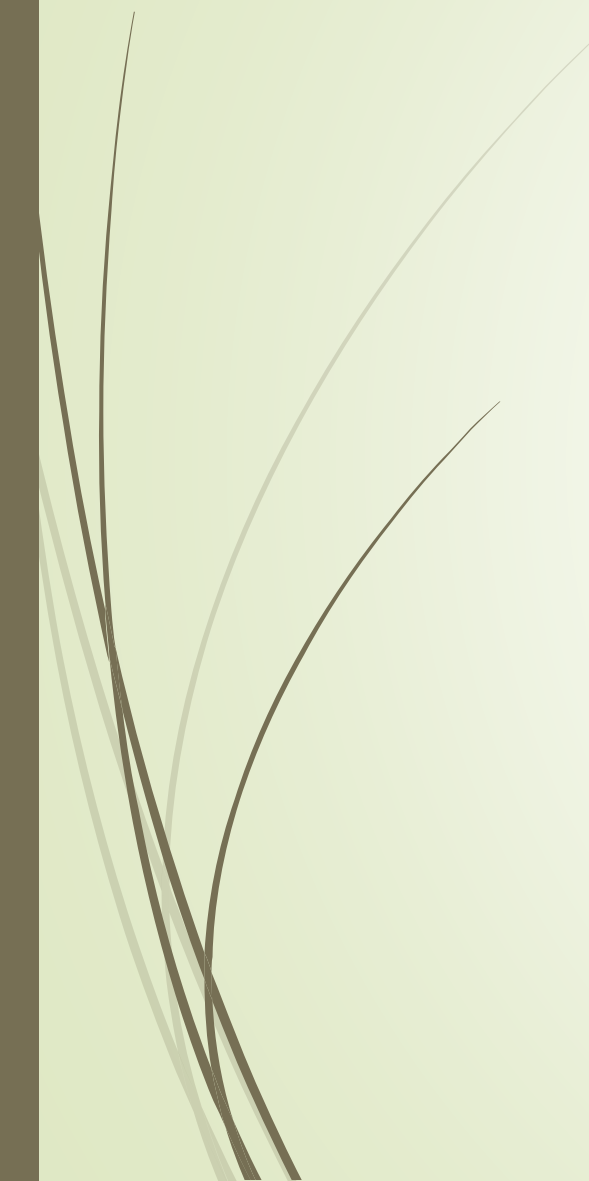
# The Problem

- ▶ **Hearing loss reports can be interpreted differently by professionals working with a patient, which consequently can cause hearing loss to underestimated.**
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# Research Aim

To determine how audiologists define the terms for degree of hearing loss when describing audiograms.





# Method

- ▶ Participants: 175 Audiologists, licensed through the American Speech-Language-Hearing Association (ASHA) from 39 states and the District of Columbia.
- ▶ Electronically surveyed on:
  - ▶ Defining degrees of hearing for children and adults
    - ▶ Children, aged 0-17 years
    - ▶ Adults, aged 18+ years
- ▶ Survey was emailed to audiologist and was open for 9 weeks, 6 days.

# Pediatric Degree of Hearing Loss

Term Used	Low (dB HL)	High (dB HL)
Normal	0 or less	10
Slight	15	20
Mild	25	35
Moderate	40	50
Moderately Severe	55	65
Severe	70	85
Profound	90	At the limits of the audiometer



# Pediatric Degree of Hearing Loss Definition Initial Values

Term	Percent who use term	Low (dB HL)	Percent Agreement	Range (dB HL)
Normal	<b>98%</b>	0 or less	<b>80%</b>	0 or less-25
Slight	<b>63%</b>	15	<b>47%</b>	0 or less-30
Mild	<b>100%</b>	25	<b>40%</b>	15-35
Moderate	<b>100%</b>	40	<b>54%</b>	25-45
Moderately Severe	<b>88%</b>	55	<b>52%</b>	45-65
Severe	<b>100%</b>	70	<b>53%</b>	50-80
Profound	<b>100%</b>	90	<b>59%</b>	70-95

## Pediatric Degree of Hearing Loss Definition Terminal Values

Term	Percent who use term	High (dB HL)	Percent Agreement	Range (dB HL)
Normal	<b>98%</b>	10	<b>37%</b>	5-At the limits of the audiometer
Slight	<b>63%</b>	20	<b>11%</b>	15-30
Mild	<b>100%</b>	35	<b>54%</b>	20-45
Moderate	<b>100%</b>	50	<b>44%</b>	40-60
Moderately Severe	<b>89%</b>	65	<b>56%</b>	50-75
Severe	<b>100%</b>	85	<b>54%</b>	65-90
Profound	<b>100%</b>	At the limits of the audiometer	<b>77%</b>	75- at the limits of the audiometer

# Adult Degree of Hearing Loss

Term Used	Low (dB HL)	High (dB HL)
Normal	0 or less	20
Slight	25	20
Mild	25	35
Moderate	40	50
Moderately Severe	55	65
Severe	70	85
Profound	90	At the limits of the audiometer

# Adult Degree of Hearing Loss Definition Initial Values Table

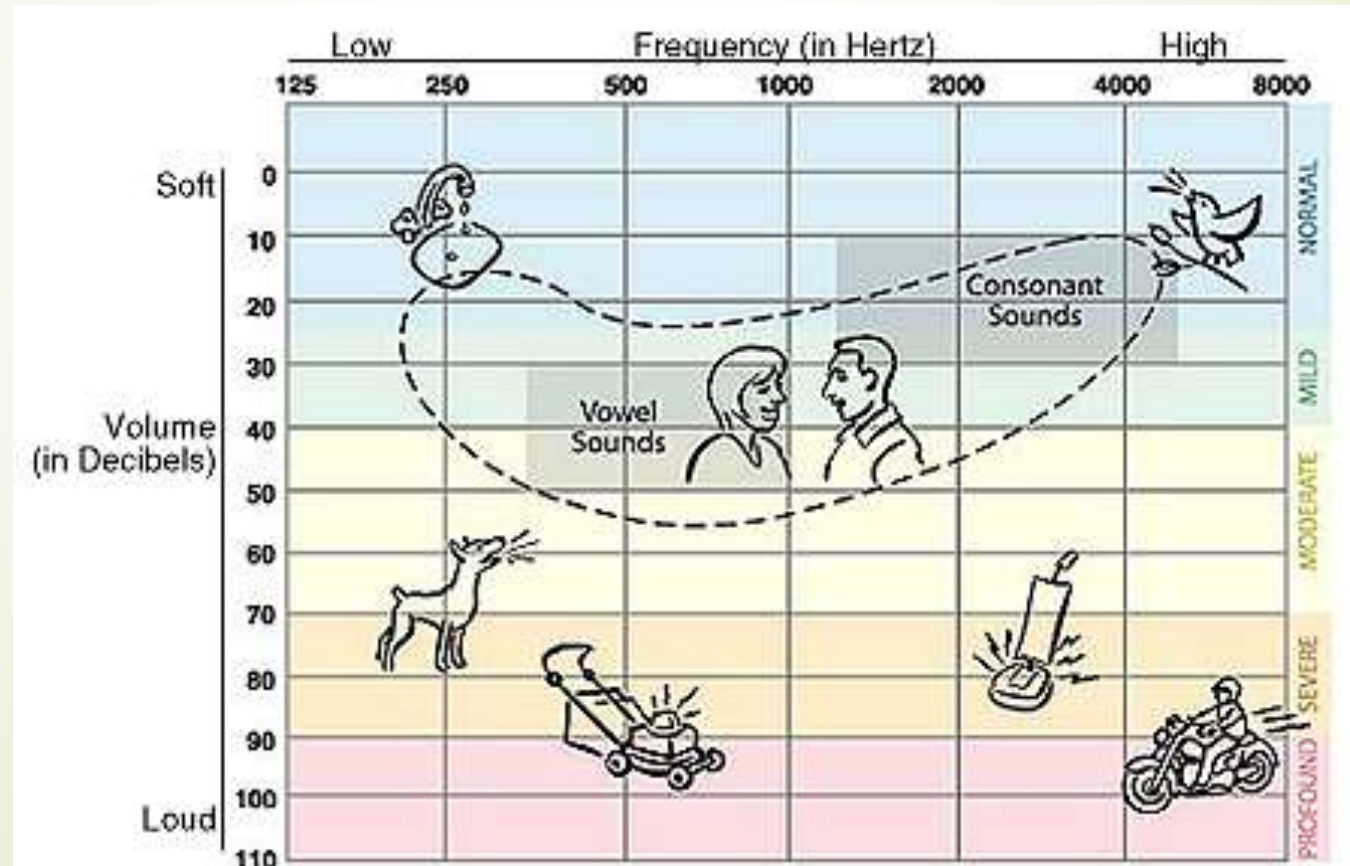
Term	Percent who use term	Low (dB HL)	Percent Agreement	Range (dB HL)
Normal	<b>98%</b>	0 or less	<b>78%</b>	0 or less-25
Slight	<b>63%</b>	25	<b>24%</b>	0 or less-30
Mild	<b>100%</b>	25	<b>48%</b>	15-35
Moderate	<b>100%</b>	40	<b>57%</b>	30-50
Moderately Severe	<b>88%</b>	55	<b>51%</b>	45-65
Severe	<b>100%</b>	70	<b>53%</b>	60-80
Profound	<b>100%</b>	90	<b>64%</b>	75-95

## Adult Degree of Hearing Loss Definition Terminal Values

Term	Percent who use term	High (dB HL)	Percent Agreement	Range (dB HL)
Normal	<b>98%</b>	20	<b>46%</b>	10-At the limits of the audiometer
Slight	<b>63%</b>	20	<b>33%</b>	15-40
Mild	<b>100%</b>	35	<b>55%</b>	25-45
Moderate	<b>100%</b>	50	<b>42%</b>	40-65
Moderately Severe	<b>89%</b>	65	<b>55%</b>	50-80
Severe	<b>100%</b>	85	<b>60%</b>	65-90
Profound	<b>100%</b>	At the limits of the audiometer	<b>79%</b>	75-At the limits of the audiometer

# Significance

- The effects hearing loss can be underestimated.
- Misunderstanding can occur if reports list degree and not actual test results.





# Future Research

- ▶ Determine which published classification systems influence how audiologists define hearing loss.
  - ▶ Identify how Speech Language Pathologists define degree of hearing loss.
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