Perceptual Coherence in Adults with Congenital and Acquired Hearing Losses

Andrea Pittman, PhD
Arizona State University

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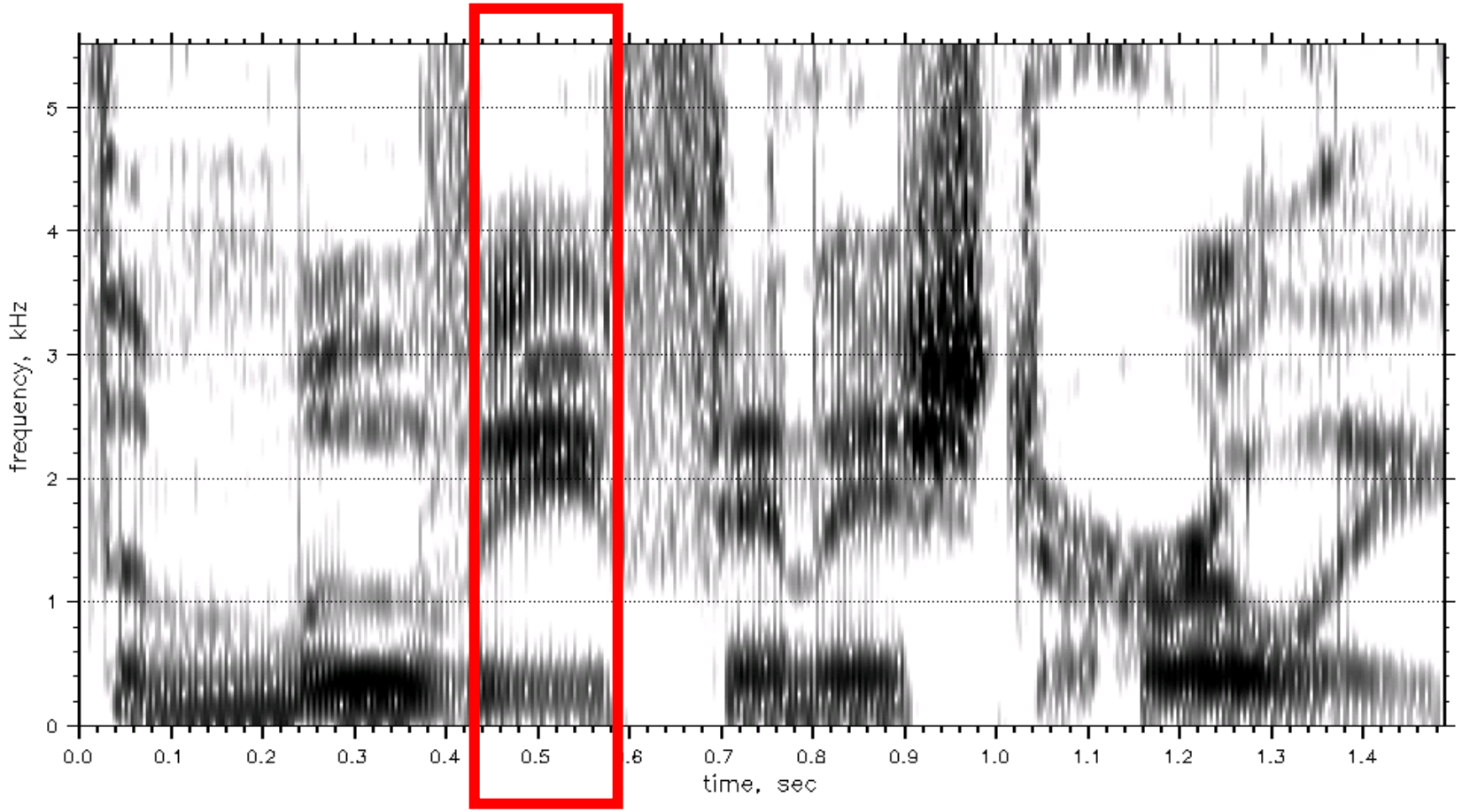
Introduction

Children with hearing loss eventually become adults with hearing loss.

Does impaired auditory processing in childhood extend into adulthood?

Perceptual Coherence

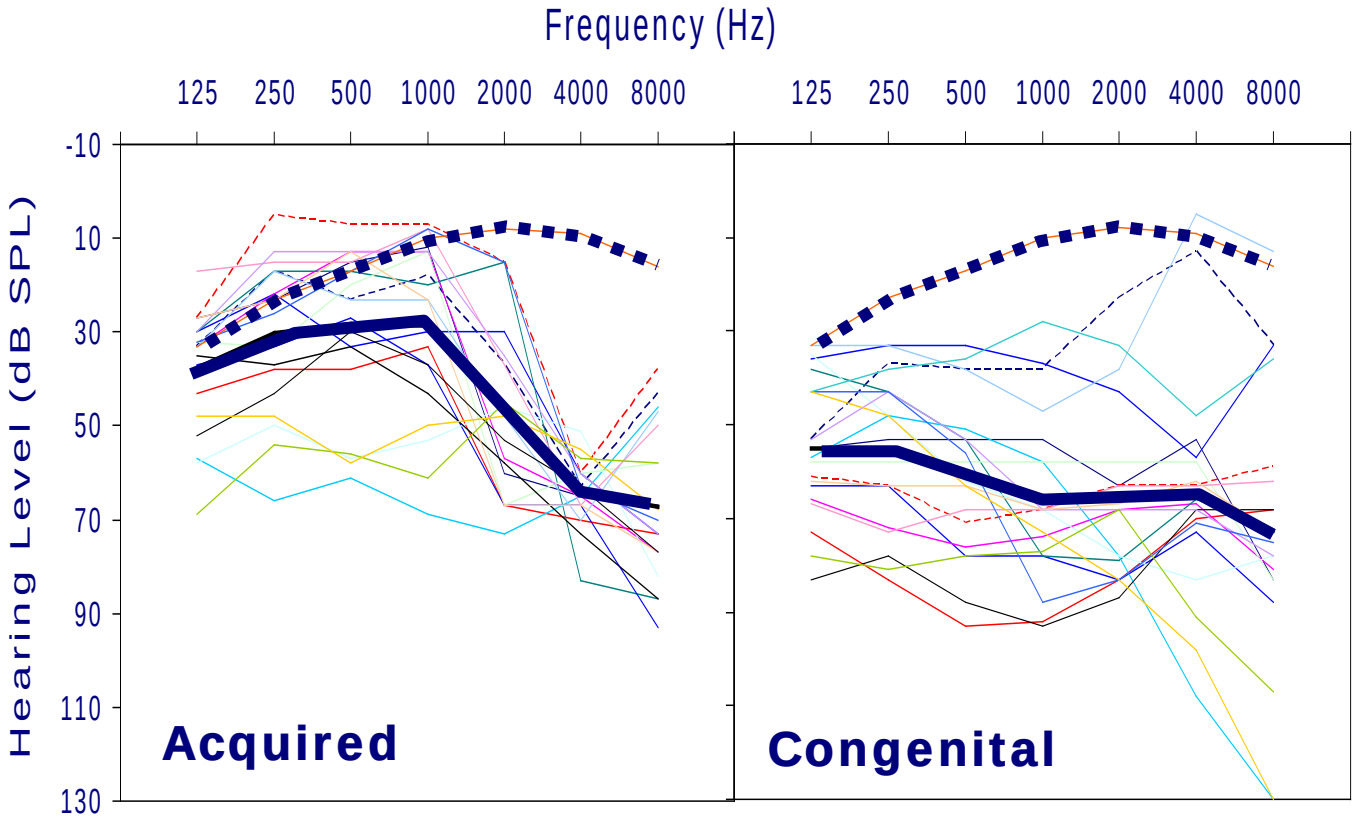


Purpose

- To examine perceptual coherence in adults with congenital hearing losses relative to adults with normal hearing and adults with acquired hearing losses.

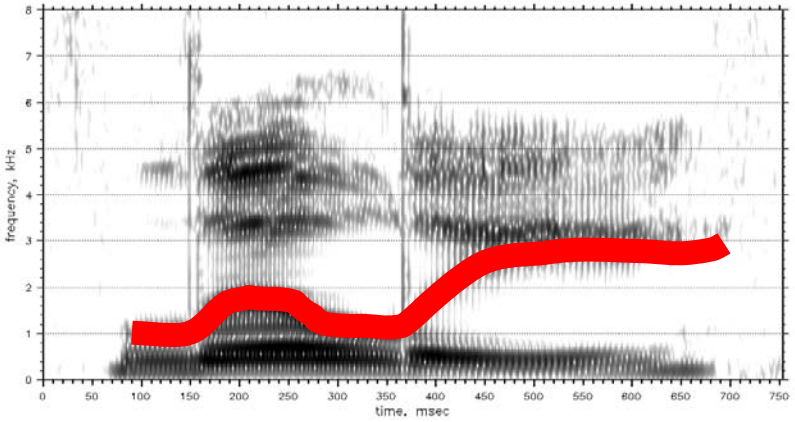
Subjects

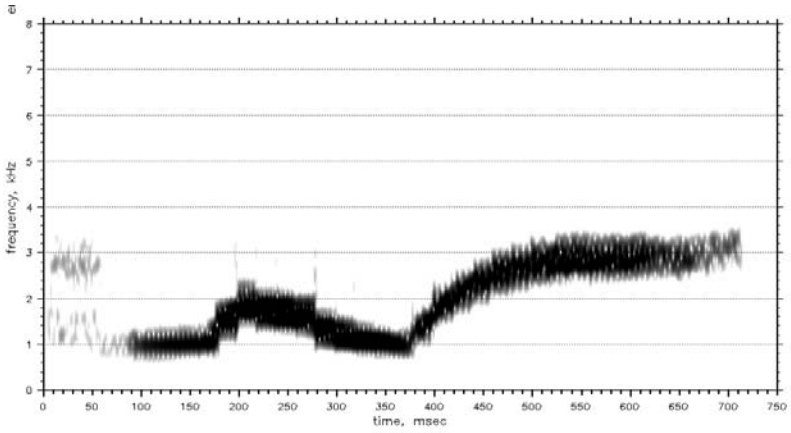
- 10 Normal hearing (mean age 25 years)
- 10 Acquired hearing losses (mean age 36 years)
- 10 Congenital hearing losses (mean age 64 years)



Stimuli

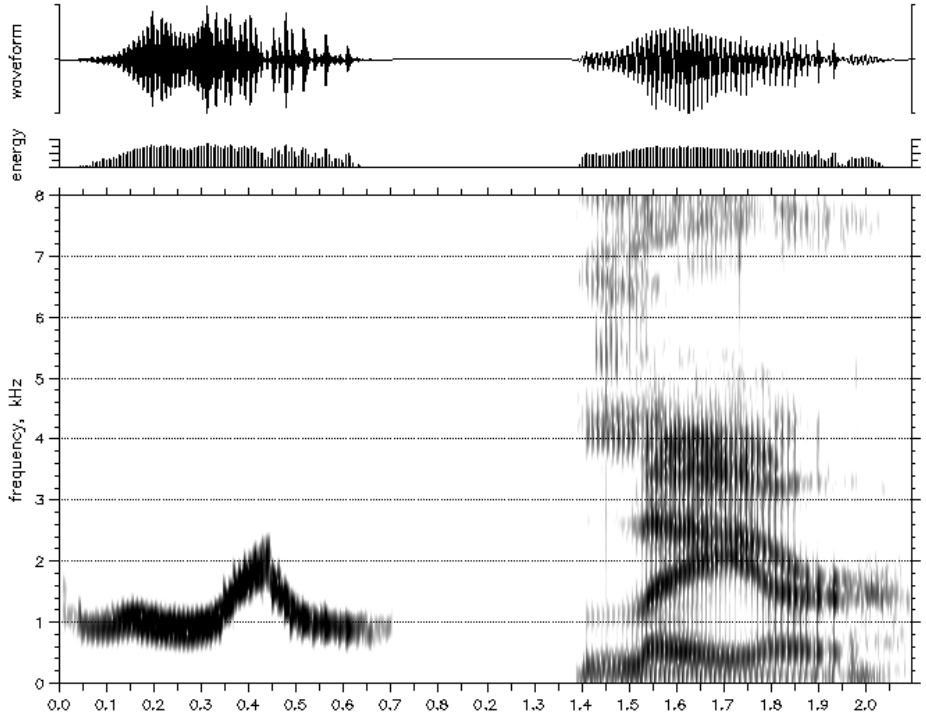
- **Speech**
  - 9 naturally produced words (sonorants)
  - Produced by a male, female and child.



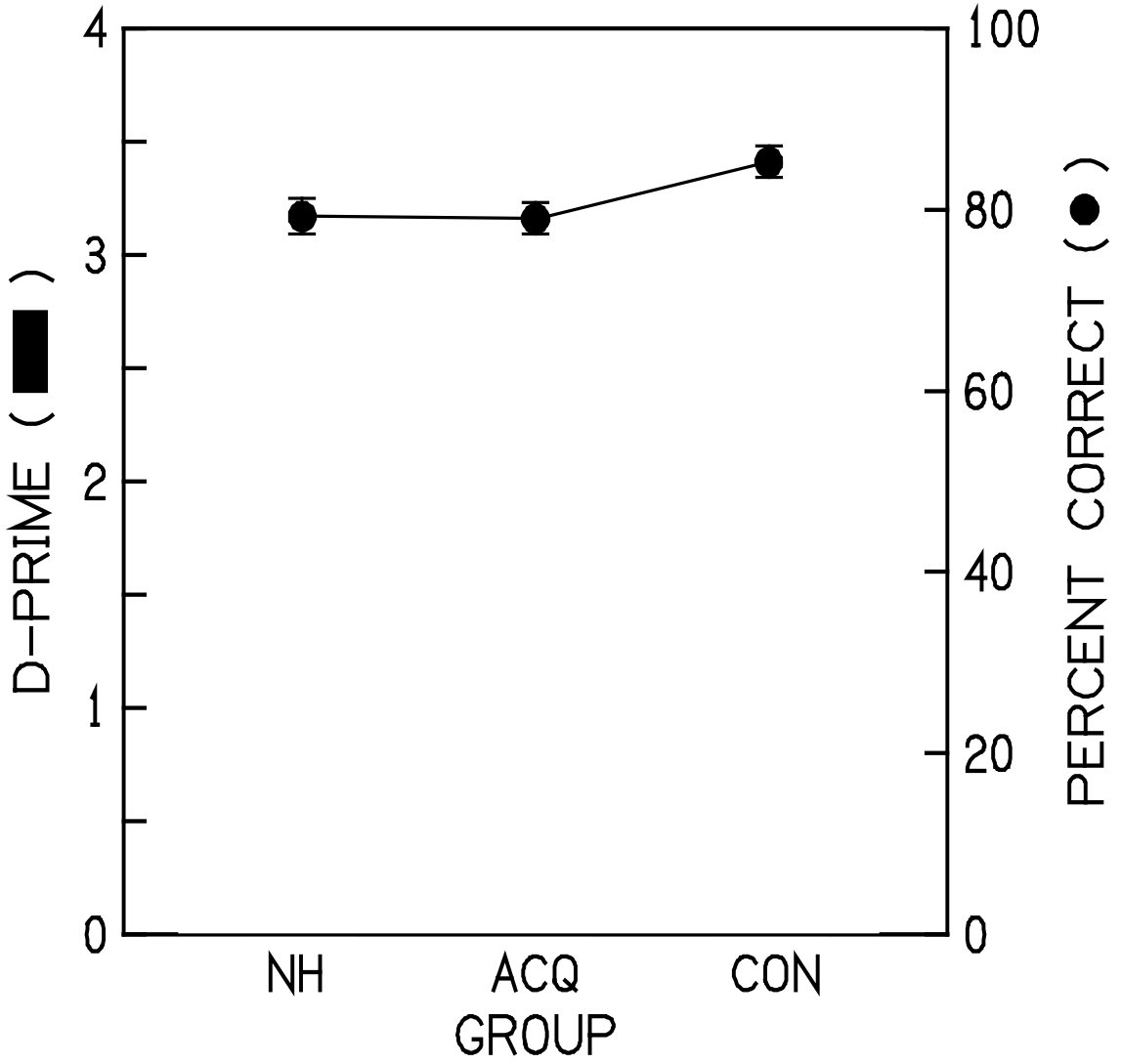


Paradigm

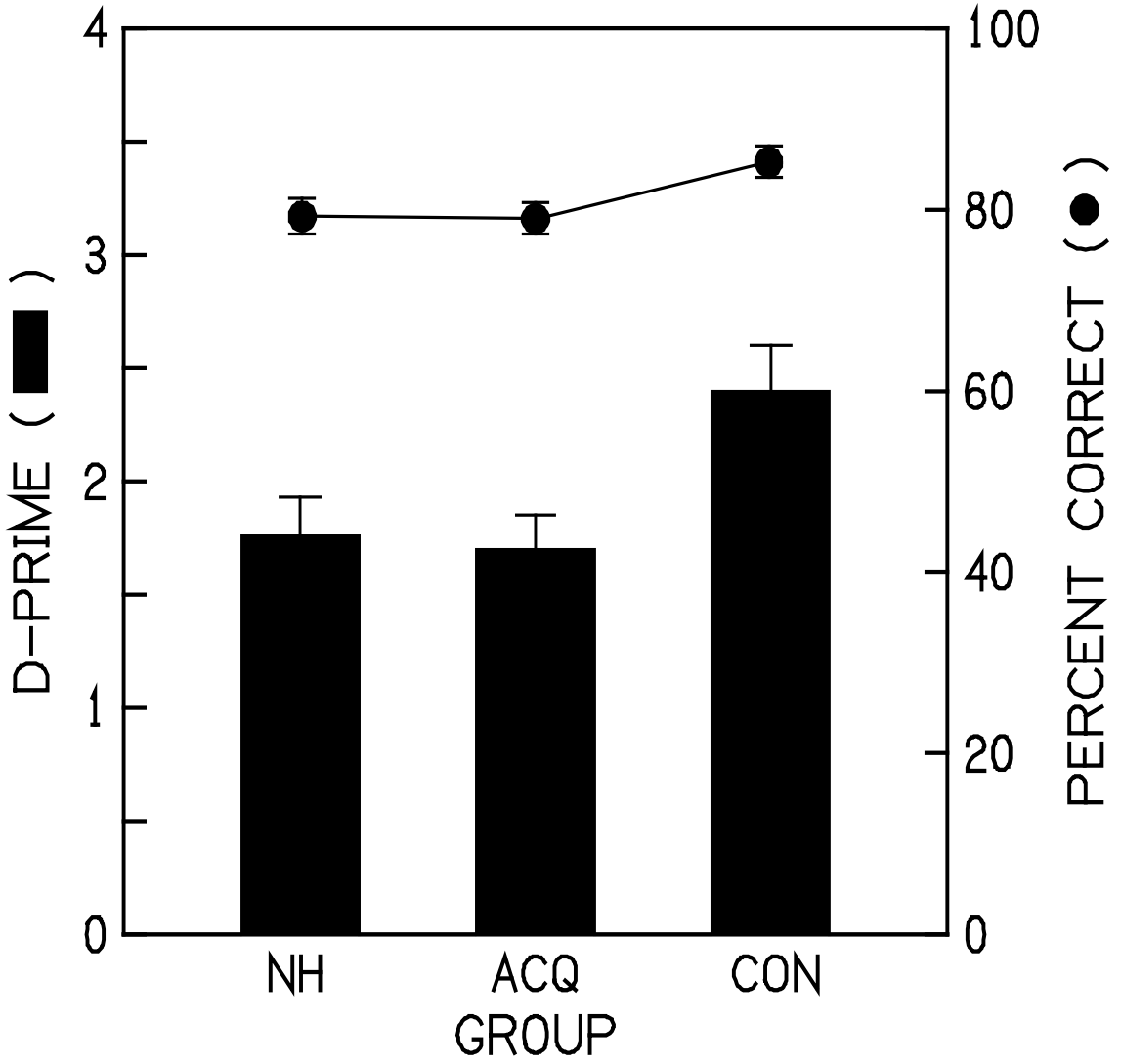
- **Yes / No**
  - Yes trial
    - F2 in the word
  - No trial
    - F2 not in the word



Results

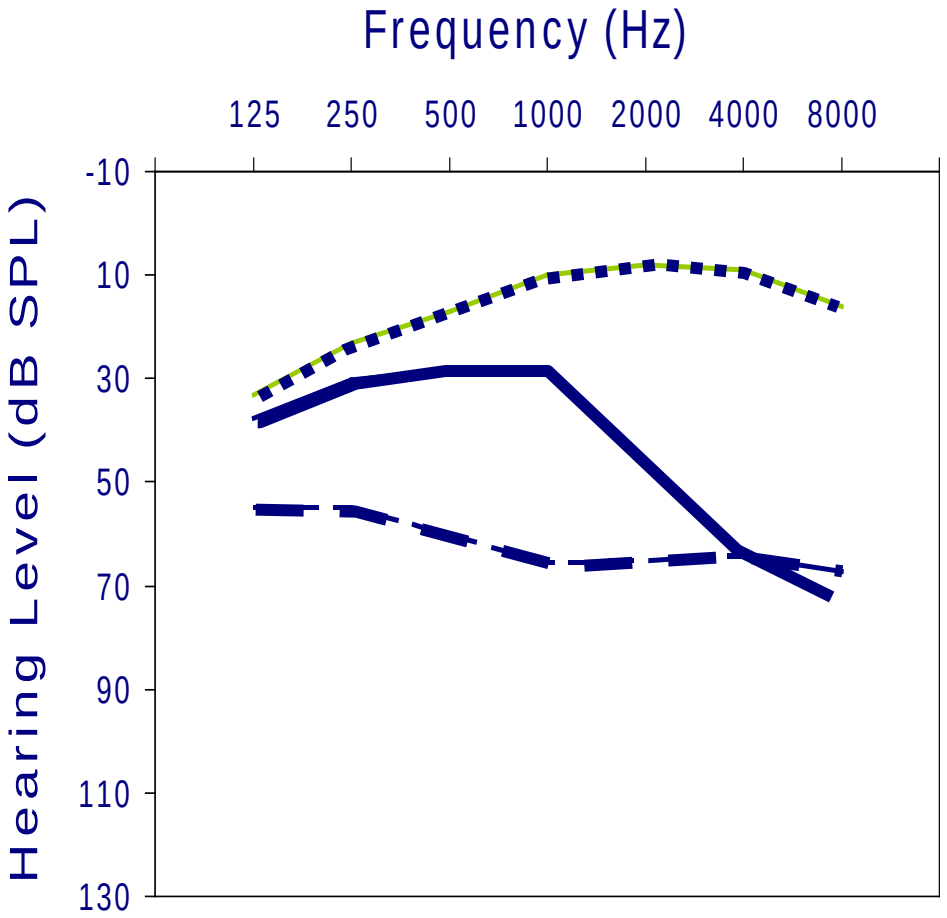

4
3
2
1
0
D-PRIME (■)
100
80
60
40
20
0
PERCENT CORRECT (●)
NH
ACQ
CON
GROUP

Results


4
3
2
1
0
D-PRIME ( )
100
80
60
40
20
0
PERCENT CORRECT ( )
NH
ACQ
CON
GROUP

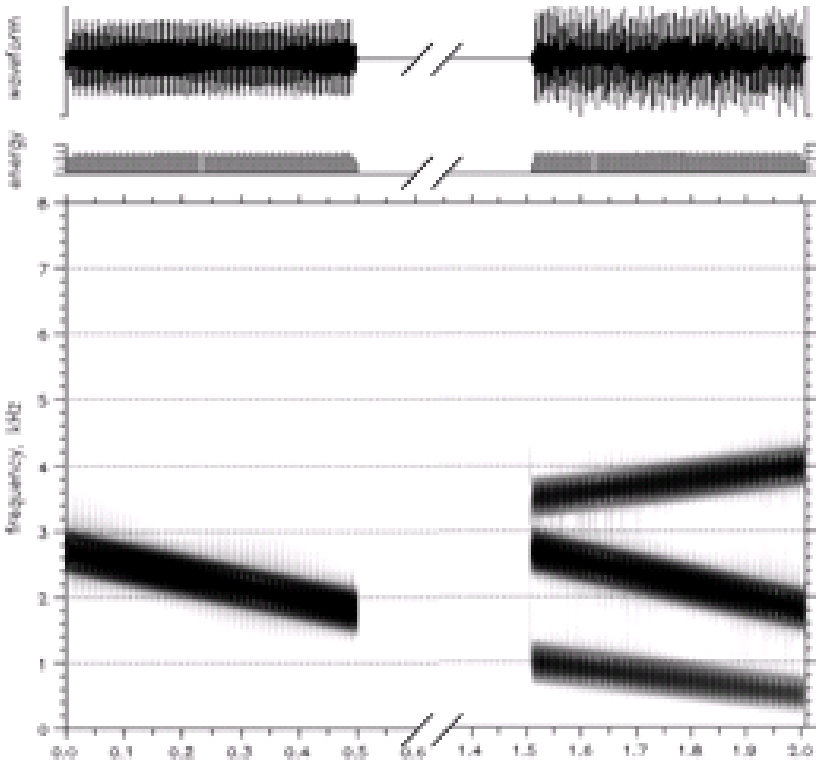
Subjects

- **Adults**
  - Normal
  - Acquired
  - Congenital



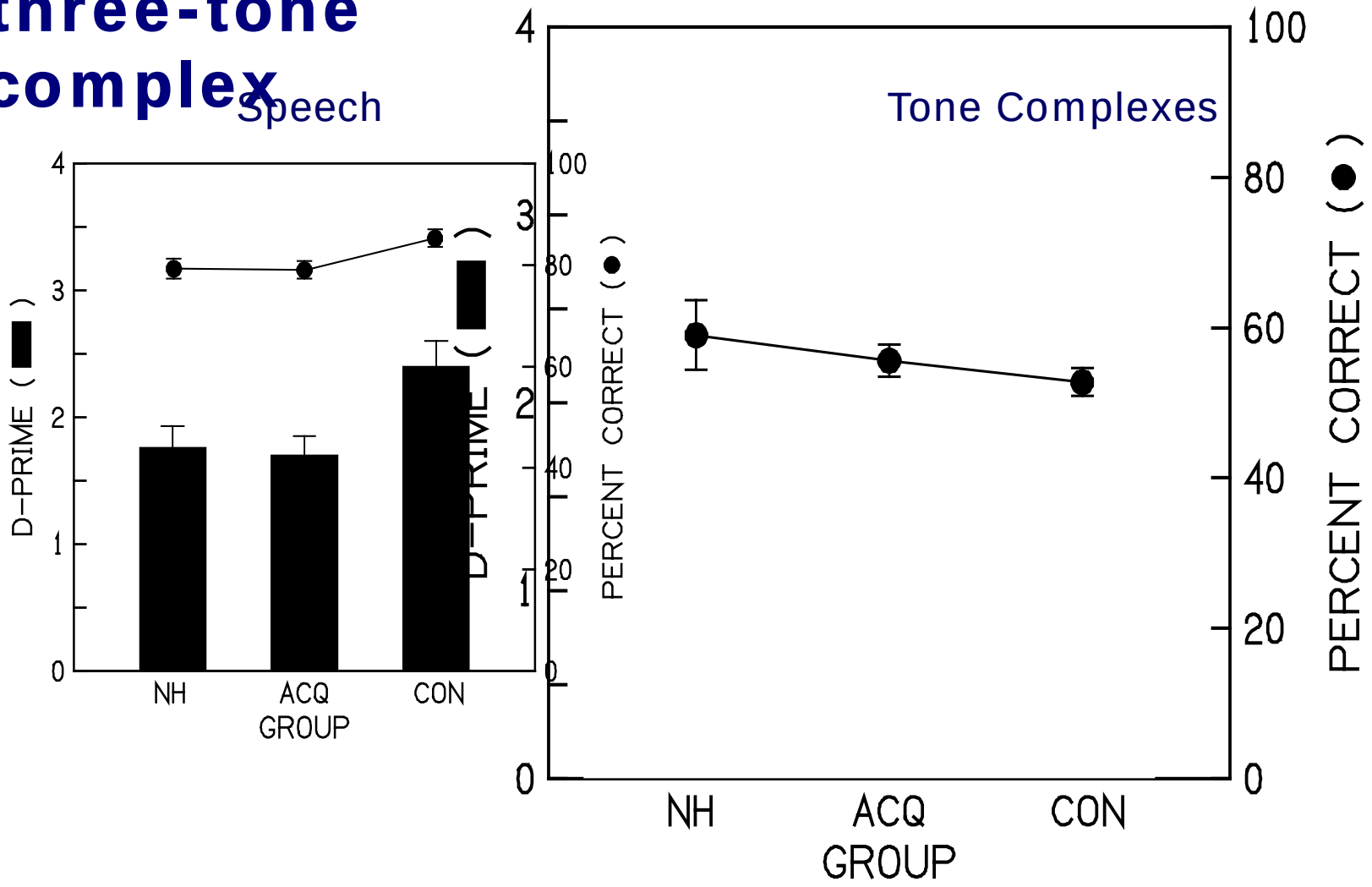
Paradigm

- **5 3-tone Complexes**
  - Amp. modulated (100Hz)
  - 50% duty cycle
- **Yes / No**
  - Yes trial
    - F2 in complex
  - No trial
    - F2 not in complex



Results

- three-tone complex



Conclusion

- Perceptual coherence was not affected by acquired hearing loss.
- Adults with congenital hearing losses demonstrated atypical perceptual coherence for speech.

- Practical consequences of poor perceptual coherence are largely unknown.
- Implications for research.

Thank you