Children’s Speech After Stuttering Treatment: Acoustic and Linguistic Changes

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Background

- Syllable Timed Speech (STS) treatment is being used with children who stutter (Trojekovski et al., 2006)
- SLP trains parents to model STS and to praise the child for using it
- 2 treatment studies currently in progress:
  - Preschool age children
  - School age children

Research Question

- Do children compromise speech and/or language when they become fluent with STS?

Method

- Case study design
- 2 preschool age participants
- 2 school age participants
- Two audiovisual speech samples (perceptually stutter-free speech)
  - Pretreatment
  - Immediately posttreatment
  - Percent syllables stuttered (%SS)
  - Acoustic measures
    - Articulation rate (AR)
    - Vowel duration (VD)
    - Fundamental frequency (F0)
  - Linguistic measures
    - Length
    - MLL morphemes
    - Mean turn length
    - Sentence Complexity
    - DSS (preschool age)
    - % Complex sentences (school age)
    - Lexical Diversity
    - NDW and NTW
      - 50 utterances (preschool age)
      - 100 utterances (school age)

Results

- Case Study 1: Katrina
  - Age: 3;3 (pretreatment) 4;5 (posttreatment)
  - Reduction in Stuttering
  - Linguistic Data

- Case Study 2: Robbie
  - Age: 4;2 (pretreatment) 4;6 (posttreatment)
  - Reduction in Stuttering
  - Linguistic Data

- Case Study 3: Russell
  - Age: 9;8 (pretreatment) 10;5 (posttreatment)
  - Reduction in Stuttering
  - Linguistic Data

- Case Study 4: Ashley
  - Age: 11;5 (pretreatment) 11;11 (posttreatment)
  - Reduction in Stuttering
  - Linguistic Data

Discussion

Stuttering

- Stuttering frequency (%SS) reduced for all participants. However, it only dropped below 1%SS for one participant

Acoustic Findings

- The acoustic signal of all participants was altered following the STS treatment. However, no consistent pattern of change was observed.
- Variability of VD findings were interesting:
  - decreased variability for school age participants;
  - no change for preschool participants.
  - This raises the possibility that STS treatment may reduce stuttering differently for different age groups.

Linguistic Findings

- Language development and use was not compromised following the STS treatment, as:
  - Length
  - Sentence Complexity
  - Lexical Diversity
  - either increased or remained within the normal range.

References


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