Using Current and Historical Data to Identify Trends and Relationships for Characterizing Speech in Bilingual Jamaican Children

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BACKGROUND

An Understudied Pairing

- Jamaican children speak Jamaican Creole (JC) and English, with English being the language of classroom instruction. JC is the 'language of the people.'

Pandemic Impact

- During the COVID-19 pandemic, children used less JC due to the requirement of English use during classroom settings (class was held virtually at home).

PURPOSE

To characterize JC and English-speaking bilingual preschoolers' speech productions in English before, during, and after the pandemic to identify possible trends during these time periods.

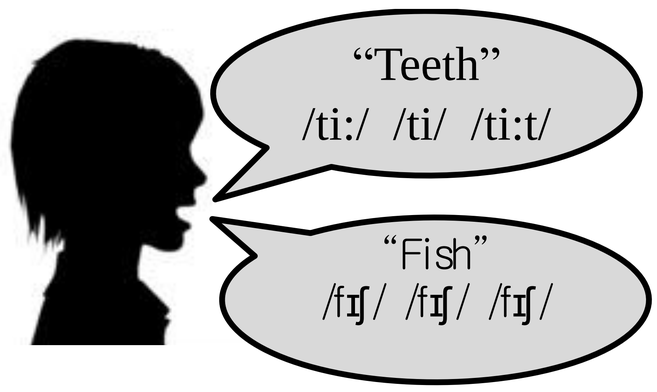
PARTICIPANTS

41 typically developing JC and English-speaking bilingual preschoolers (ages 3;6-5;3)

- Before COVID-19, *n=6*
- During COVID-19, *n=10*
- After COVID-19, *n=25*

METHODS

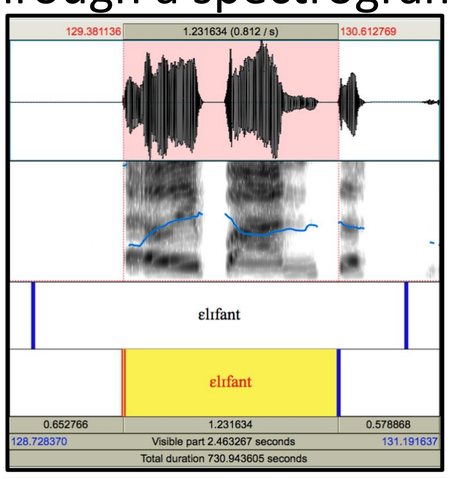
- DEAP Word Inconsistency Subtest (WIS)
  - 3 repetitions of 11 items



- Acoustic whole-word durations
  - *'Timing'*
- Percent Consonant Correct-Revised (PCC-R)
  - *'Accuracy'*

Software

Praat: analyzes speech visually through a spectrogram



DATA ANALYSIS

- Used SPSS Statistics to calculate the average covariation
- Levene's Test of Homogeneity
  - Completed a Bonferroni correction
- ANOVA
  - Games-Howell Analysis
  - Tukey HSD

RESULTS

- **Statistically Significant Differences of PCC:**

PCC Descriptives			
	N	Mean	Std. Deviation
Before	6	82.4	6.7
During	10	93.9	7.3
After	25	98.4	2.5

Games-Howell Results for PCC						
					95% Confidence Interval	
Year Collected	Year Collected	Mean Difference	Std. Error	Sig.	Lower Bound	Upper Bound
During	Before	11.5	3.6	0.02	1.9	21.2
After	Before	16	2.8	0.004	7.1	24.9

- **Statistically Significant Differences of Acoustics:**

Acoustic Descriptives			
	N	Mean	Std. Deviation
Before	6	0.01	0.003
During	10	0.02	0.007

Tukey HSD Results for Acoustics						
					95% Confidence Interval	
Year Collected	Year Collected	Mean Difference	Std. Error	Sig.	Lower Bound	Upper Bound
During	Before	0.01	0.002	0.024	0.001	0.02

DISCUSSION

The over-emphasis of English use in the home during the pandemic could be a factor in the change of transcription-based ratings. For acoustics, there may have been a return to pre-pandemic speech characteristics.

LIMITATIONS

- Study only focused on English
- Unequal sample sizes were present; however, statistical methods accounted for these differences

CONCLUSIONS

Regardless of the approach used, children's productions evidenced differences based on timepoint. More research is needed to better understand the impact of these differences in production intelligibility on Jamaican children's lives.

REFERENCES

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