English Prosodic Rhythm among Haitian and African Americans in Miami

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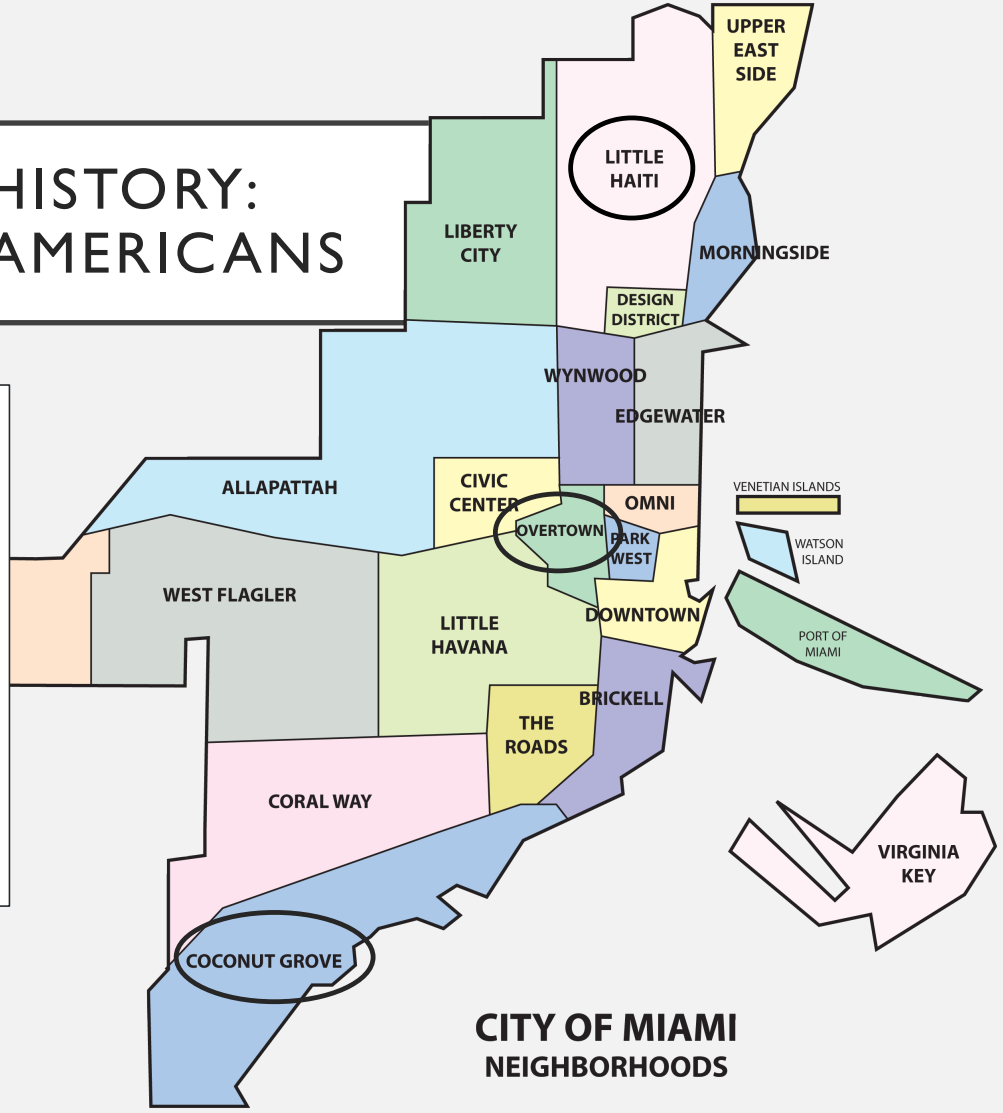
BACKGROUND

MIGRATION IN SOUTH FLORIDA

MIAMI HISTORY: AFRICAN AMERICANS

Miami African Americans came to the region via:

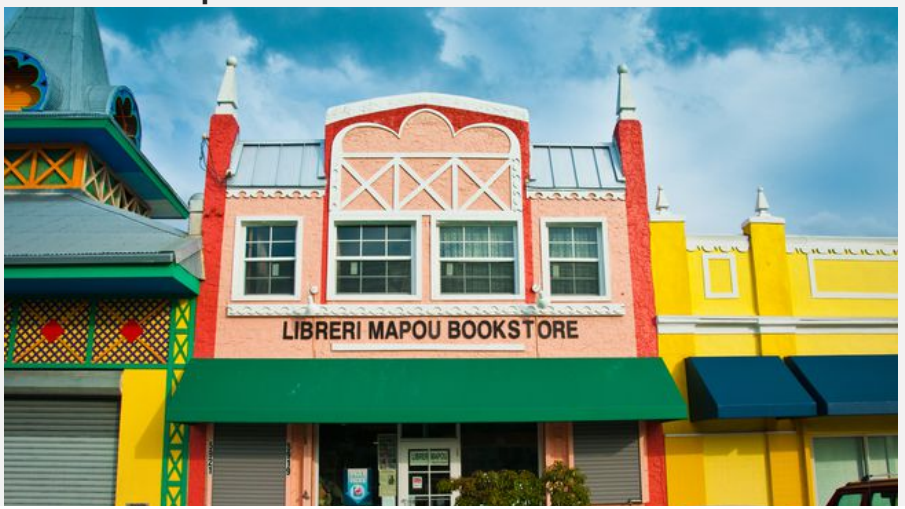
1. Northern Florida and Georgia
2. Convict leases (southern US)
3. Bahamas and Jamaica



MIAMI HISTORY: HAITIAN AMERICANS

- Waves of Haitian immigration and refugees from late 1950s
- Number of Haitians still small percentage of Miami

- Forced into contact primarily with African Americans
- Kept separate by religion and cultural practices



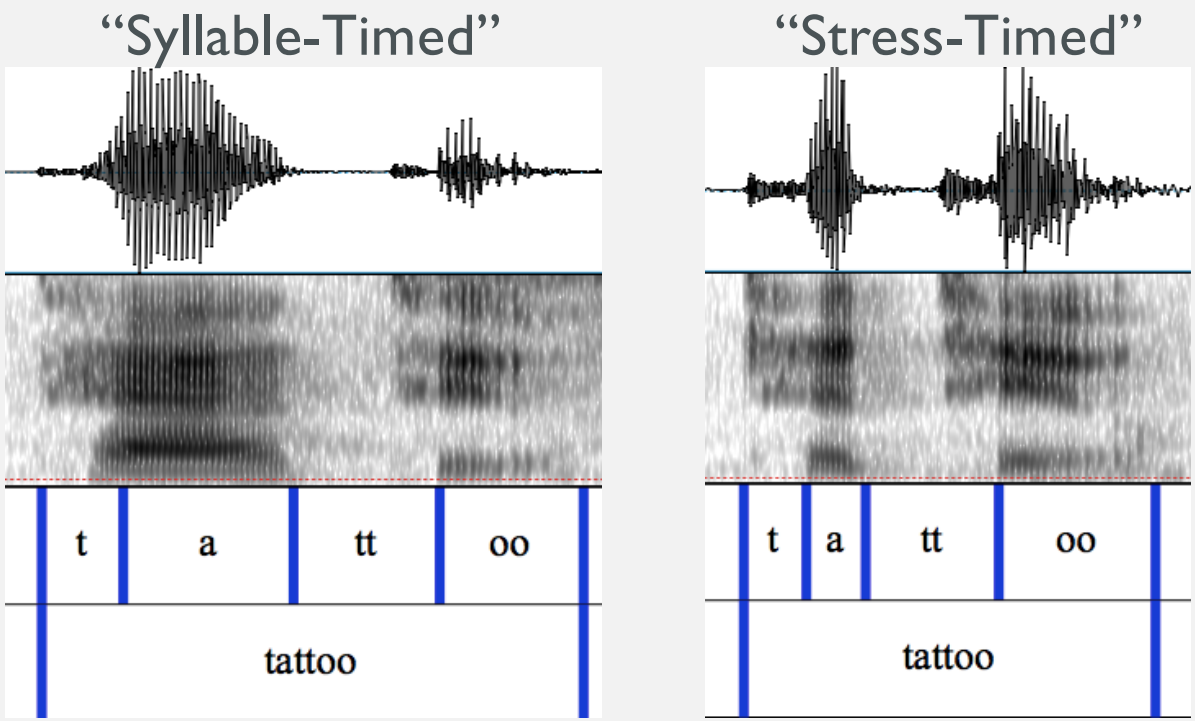
MIAMI HISTORY: SPANISH SPEAKERS

- 1960: 4% Cuban, 81% Anglo White, 15% African American
- 1970: 24% Hispanic
- 1980: 36% Hispanic
- 1990: 49% Hispanic
- 2000: 57% Hispanic
- 2010: 65% Hispanic, 15% non-Hispanic White
- 2010: Miami City 79% Latino

PROSODIC RHYTHM

RHYTHM ACROSS LANGUAGES

Prosodic Rhythm:
- Relative duration of successive units of speech



Pike (1945), Abercrombie (1967)

PROSODIC RHYTHM: L2 ENGLISH

- Spanish-speaking learners of English have English rhythm medially between Spanish and monolingual English speakers (White and Mattys 2007)
- Early and simultaneous bilinguals in Spanish and English have rhythm medially between Spanish and monolingual English speakers (Carter 2005)

PROSODIC RHYTHM: ETHNIC VARIATION

- Chicano English (Fought 2002)
  - First 5 syllables more syllable-timed than other California English varieties
- African American English (Thomas and Carter 2006)
  - Historical varieties of AAE were more syllable-timed than historical White varieties
  - Contemporary varieties of AAE have the same timing as contemporary White varieties

PROSODIC RHYTHM: ETHNIC VARIATION

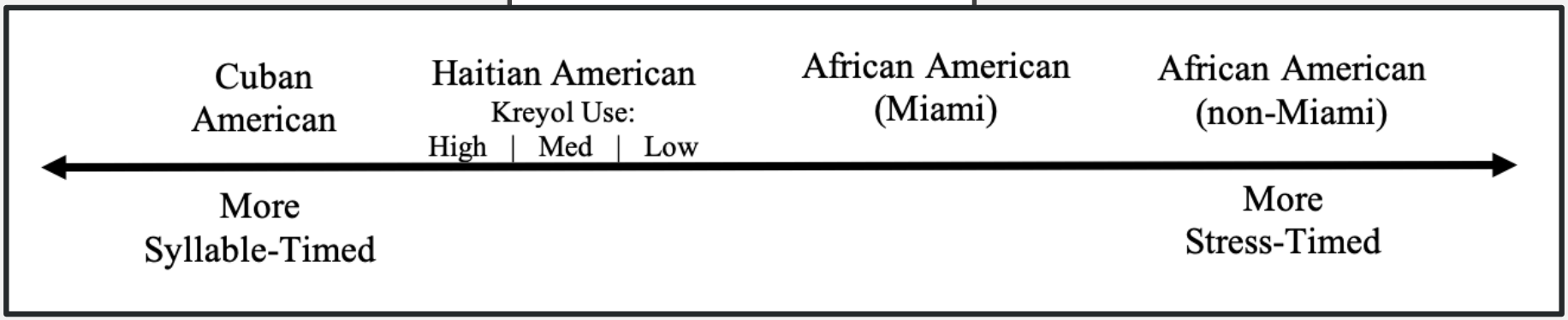
- Cherokee and Lumbee English (Coggshall 2008)
  - Cherokee English is more syllable-timed than Anglo-white varieties
  - Younger Lumbee varieties are more syllable-timed than the varieties spoken by White participants and older Lumbee participants

RESEARCH QUESTIONS

QUESTIONS

1. How does the prosodic rhythm of Miami African Americans compare to the rhythms of African Americans in other US regions and other Miami ethnicities?
2. How does the prosodic rhythm of Miami Haitian Americans compare to those of Miami African and Cuban Americans?
    a. Does individual Kreyol use among Miami Haitian Americans affect their prosodic rhythm?

HYPOTHESES



- RQ1: Miami African Americans more syllable-timed than NC African Americans
  Miami African Americans less syllable-timed than other Miami Ethnicities
- RQ2: Haitian Americans more syllable-timed than African Americans
  Haitian Americans less syllable-timed than Cuban Americans
- RQ2a: Haitian Americans with more Kreyol use more syllable-timed than those with less Kreyol use

METHODOLOGY

DEPENDENT VARIABLES

Multiple Measures of prosodic rhythm:

- Normalized Pairwise Variability Index of vowels (nPVI-V)
- %V
- ΔC
- varcoC

DATA

DATA

- Fieldwork
- 3 other corpora
  - Miami African American English (MAAE)
  - Corpus of Regional African American Language (CORAAL)
  - Miami Latino English (MLE)

	Cuban American	Haitian American	Miami African American	N.C. African American
MLE	4	2		
Fieldwork		1	3	
MAAE		7	12	
CORAAL				4

DATA PREPARATION

- Conversational interview data
  Topics: Language, childhood
  (Clopper and Smiljanic 2015)
- Transcribed in Elan
- Force aligned: FAVE-align
  (Rosenfelder et al. 2014)
- Sound boundaries
  (Peterson and Lehiste 1960)
- Vowels vs. Consonants
  e.g. syllabic consonants as vowels
  e.g. syllable-final /l/ -> /u/ as vowel

DATA ANALYSIS

- Per utterance
- Excluded phrase-final lengthening (Klatt 1975)
- Pause = space > 70ms (Thomas and Carter 2006)
- Utterance began again after pause
- Included discourse markers

Example:

~~Yes | and* no* [sp]~~

Because a | lot* of* [sp]

Ebonics that | I* got* [sp]

I got from the music that I li- | stened* to* [sp]

Cuban American	**Haitian American**	**Miami African American**	**N.C. African American**	**Total**
80	318	412	78	**888**

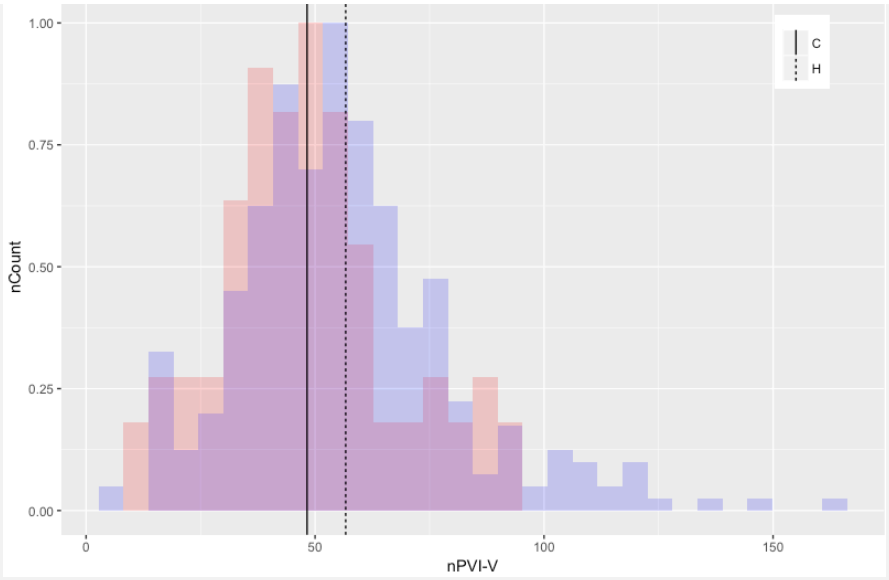
ANALYSIS

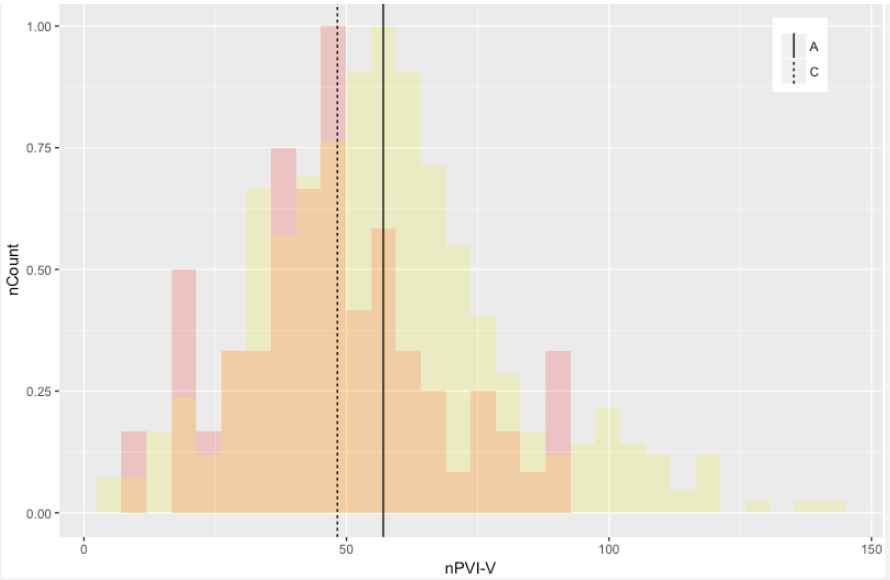
STATISTICAL ANALYSIS

- Linear mixed effects regression models in R
  - Dependent variables- The 4 rhythm measures
  - Random Intercept: Participant
  - Random Slope: Topic ~ Participant
- RQ1: Ethnicity – treatment contrasts w/ Miami AA as control
- RQ2: Ethnicity – treatment contrasts w/ Haitian as control

RESULTS AND DISCUSSION

RQ1 and RQ2

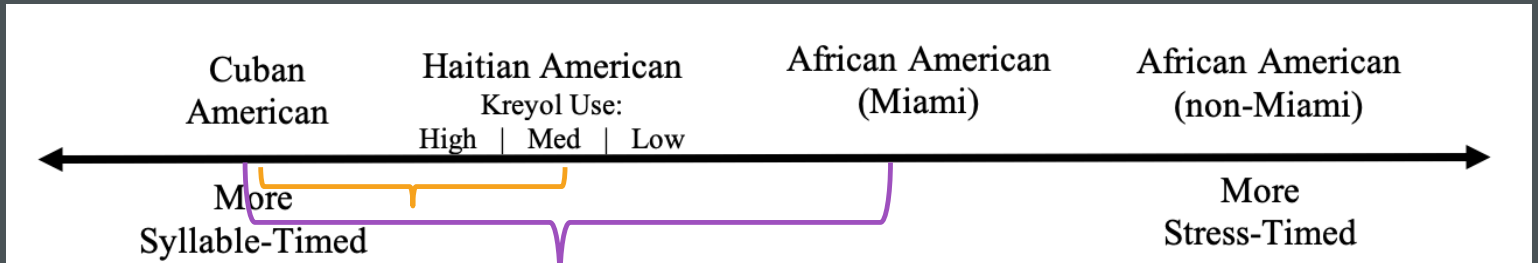




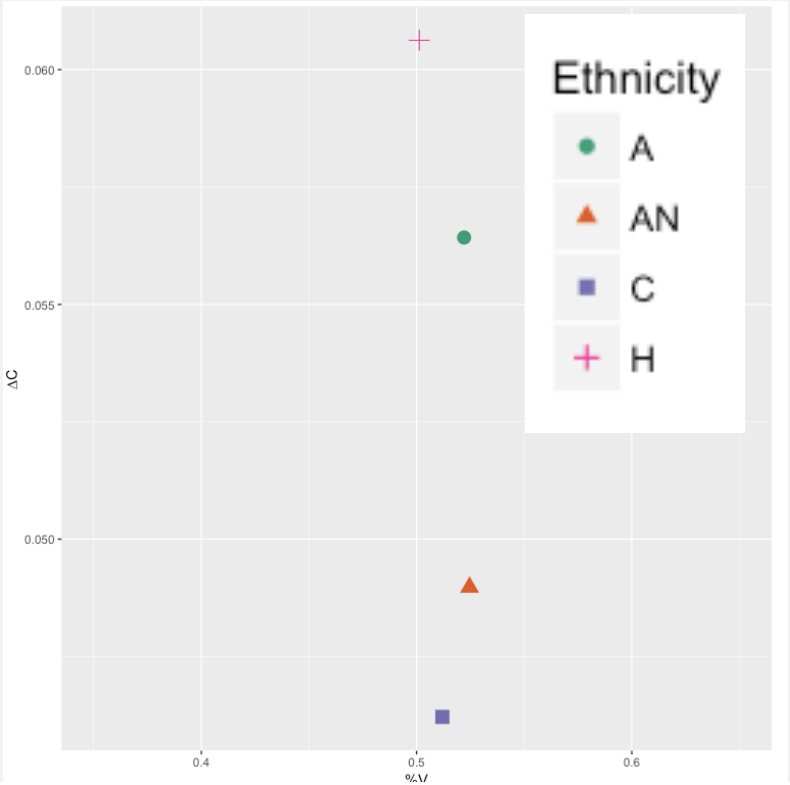
Miami African American ~ Cuban American
t = -2.818, p = 0.011

Haitian American ~ Cuban American
t = -2.47, p = 0.023

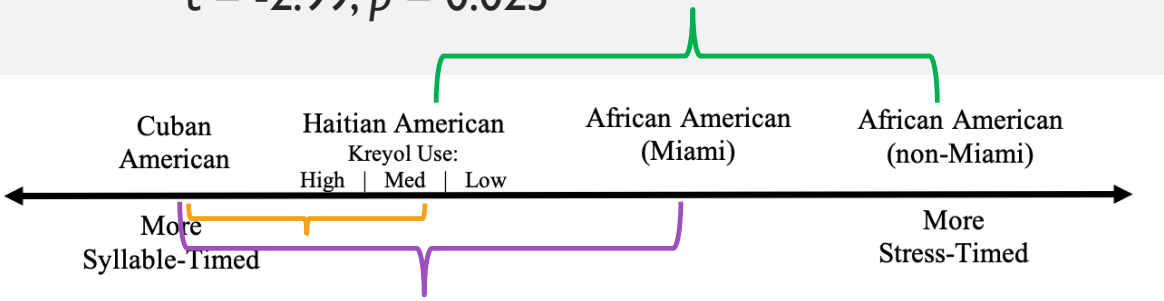
NPVI-V



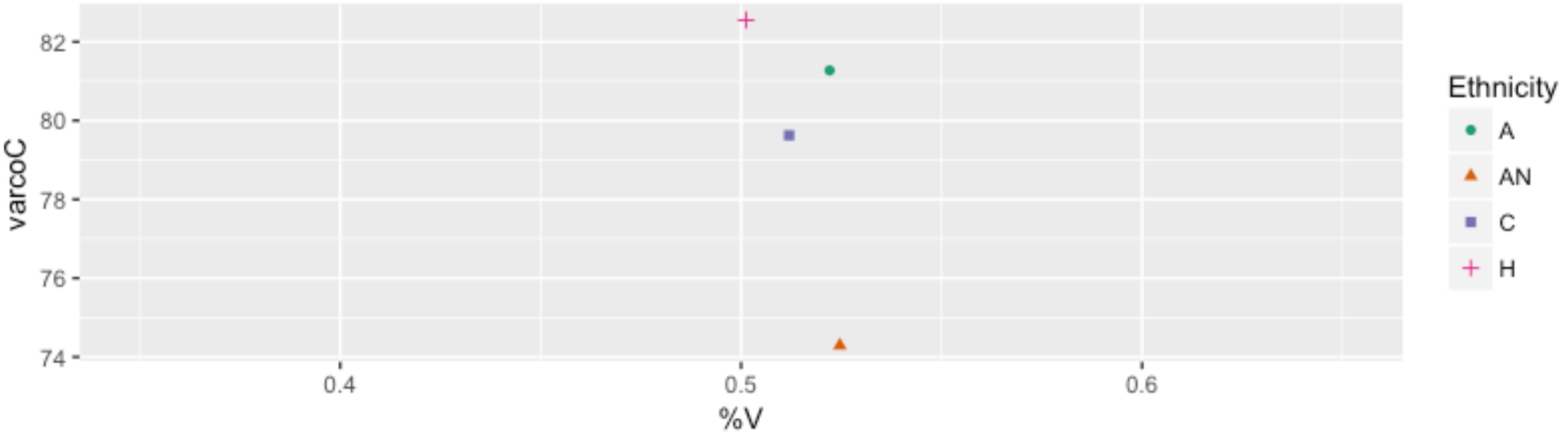
%V ~ ΔC



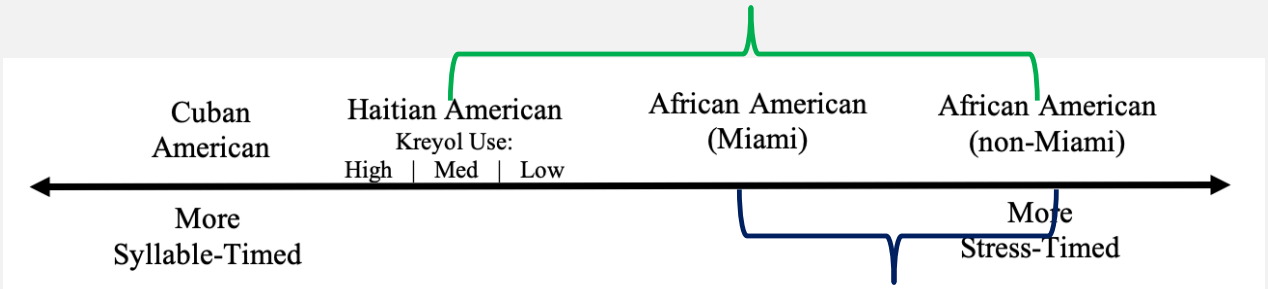
- ΔC
  - Miami African American ~ Cuban American
    t = -2.37, *p* = 0.023
  - Haitian American ~ Cuban American
    t = -2.31, *p* = 0.005
  - Haitian American ~ NC African American
    t = -2.99, *p* = 0.023



varcoC



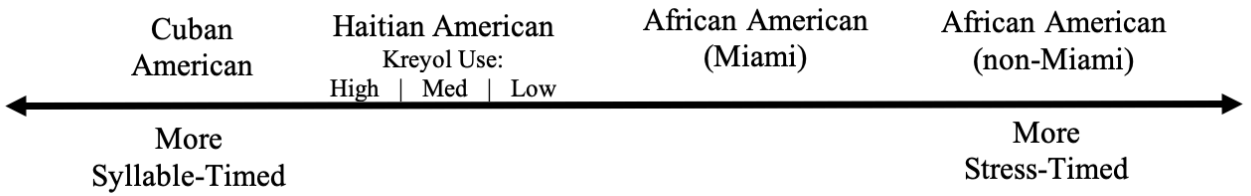
- Miami ~ NC African American
  t = -2.09, p = 0.042
- Haitian American ~ NC African American
  t = -2.44, p = 0.018



DISCUSSION

SUMMARY

- Expectations:
  - ✓ Miami African (varcoC) and Haitian Americans (varcoC, ΔC) more syllable-timed than non-Miami African Americans
  - ✓ Cuban Americans more syllable-timed than Miami African (nPVI-V, ΔC) and Haitian Americans (nPVIV)
  - X Miami Haitian Americans more syllable-timed than Miami African Americans



CONCLUSIONS

- Further Research
  - Read Speech
  - HC proficiency test
  - More identity measures
- Implications
  - Bilingual transfer effects vs. identity

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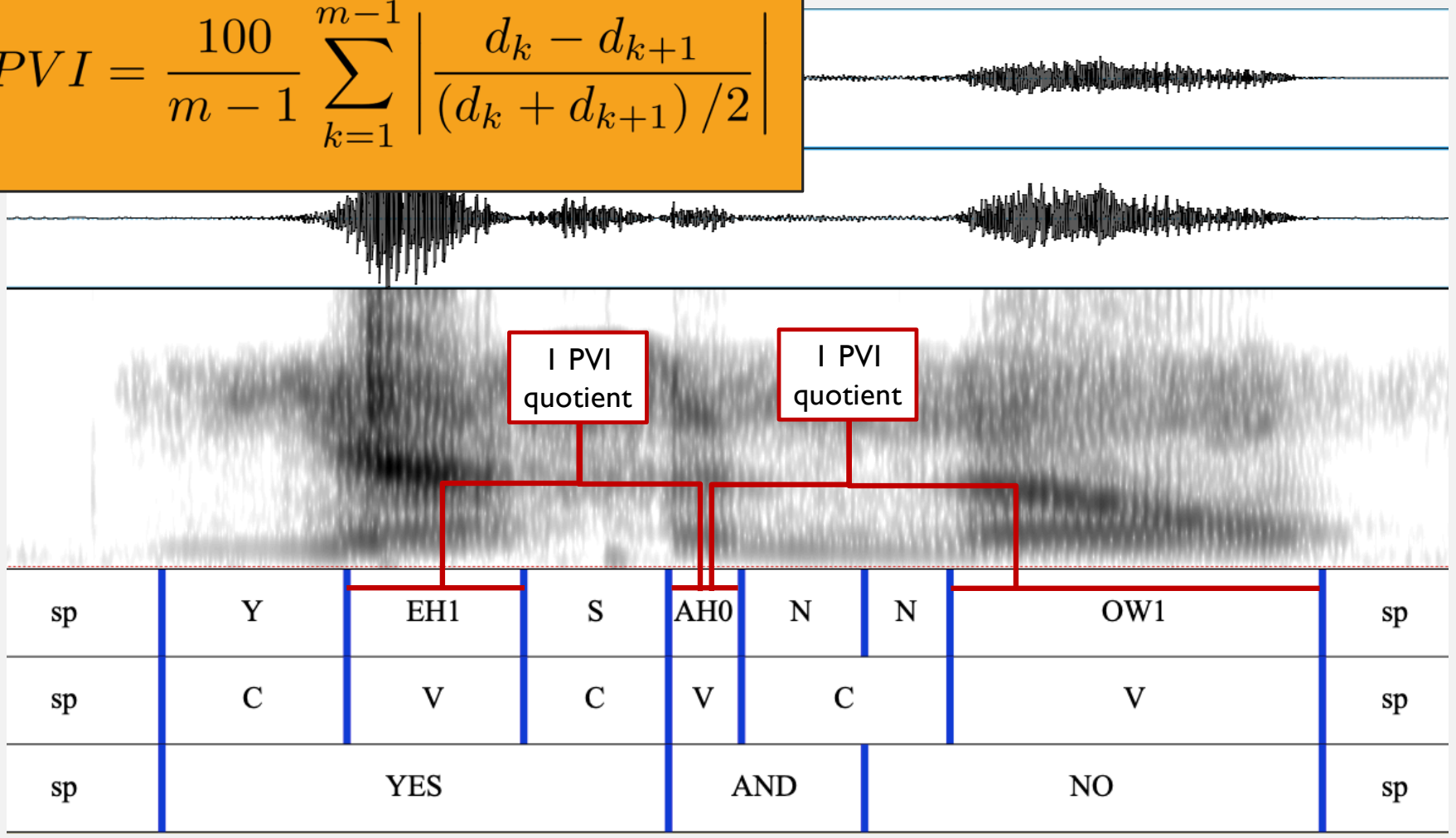
DESCRIPTIONS OF EQUATIONS

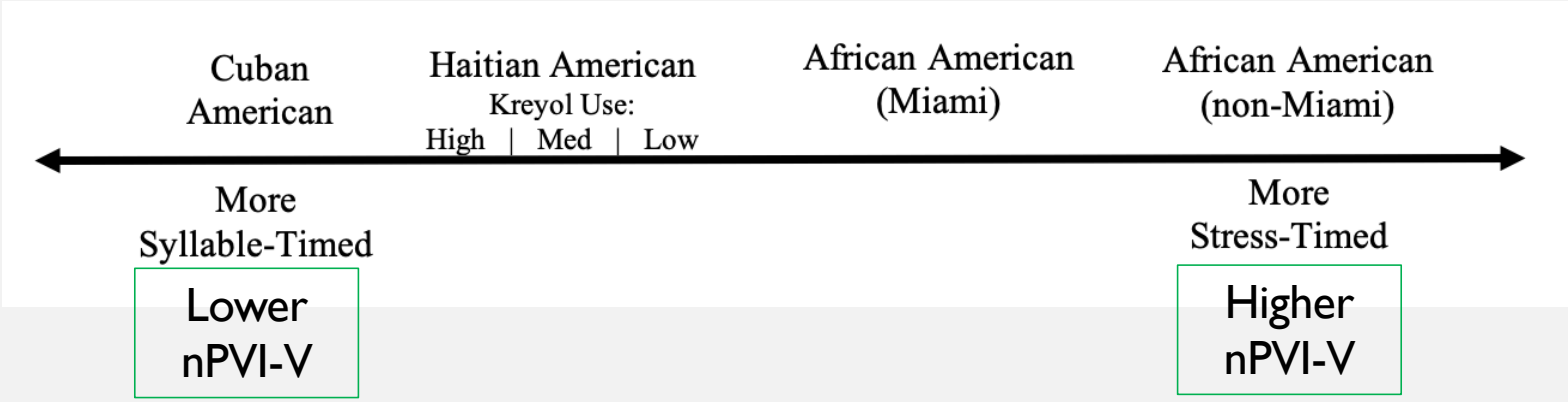
nPVI-V

(Low and Grabe 1995; Low, Grabe, and Nolan 2000)

$$nPVI = \frac{100}{m-1} \sum_{k=1}^{m-1} \left| \frac{d_k - d_{k+1}}{(d_k + d_{k+1})/2} \right|$$



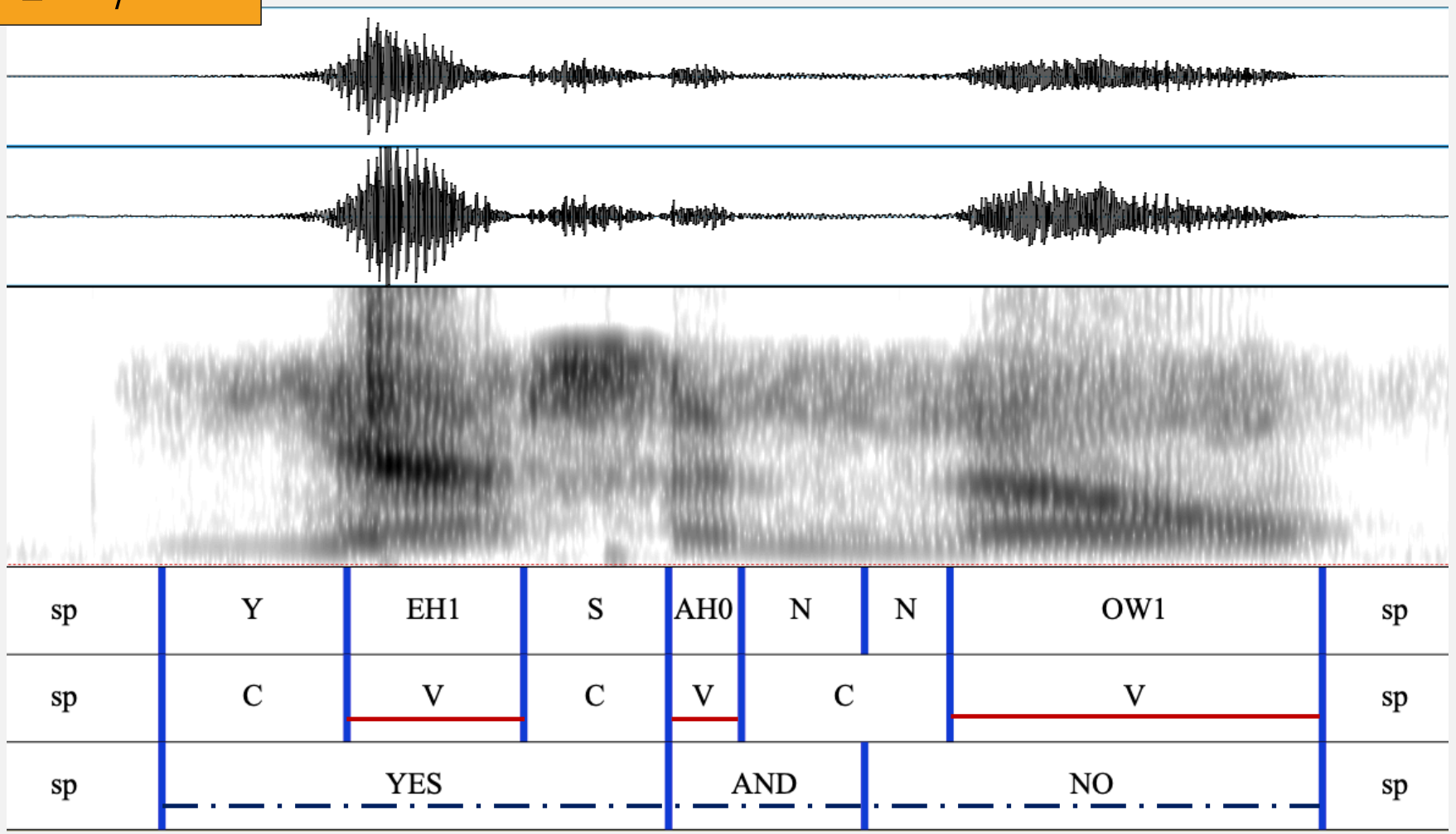
nPVI-V: PREDICTIONS



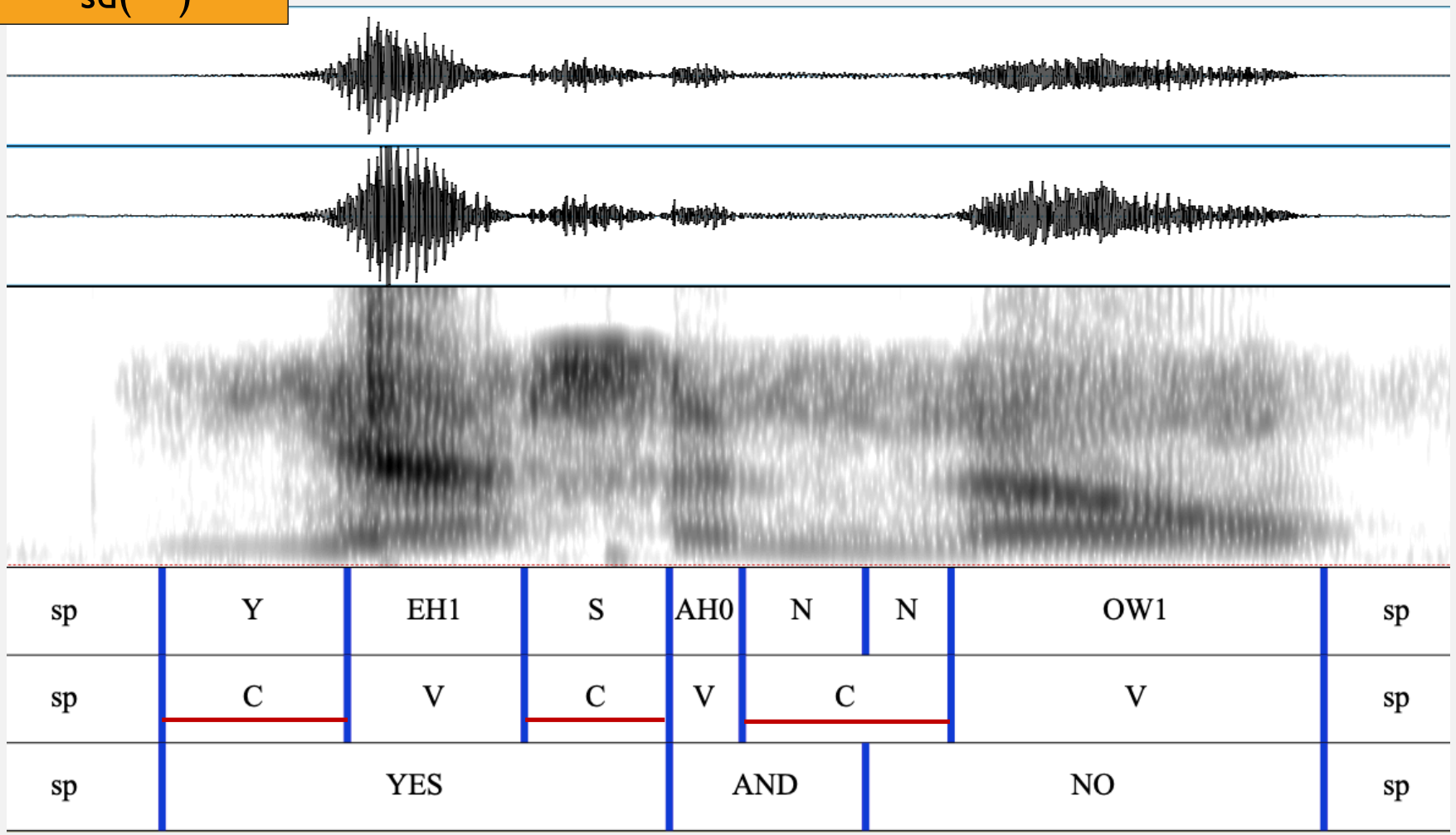
$$\%V \sim \Delta C$$

(Ramus, Nespor, and Mehler 1999)

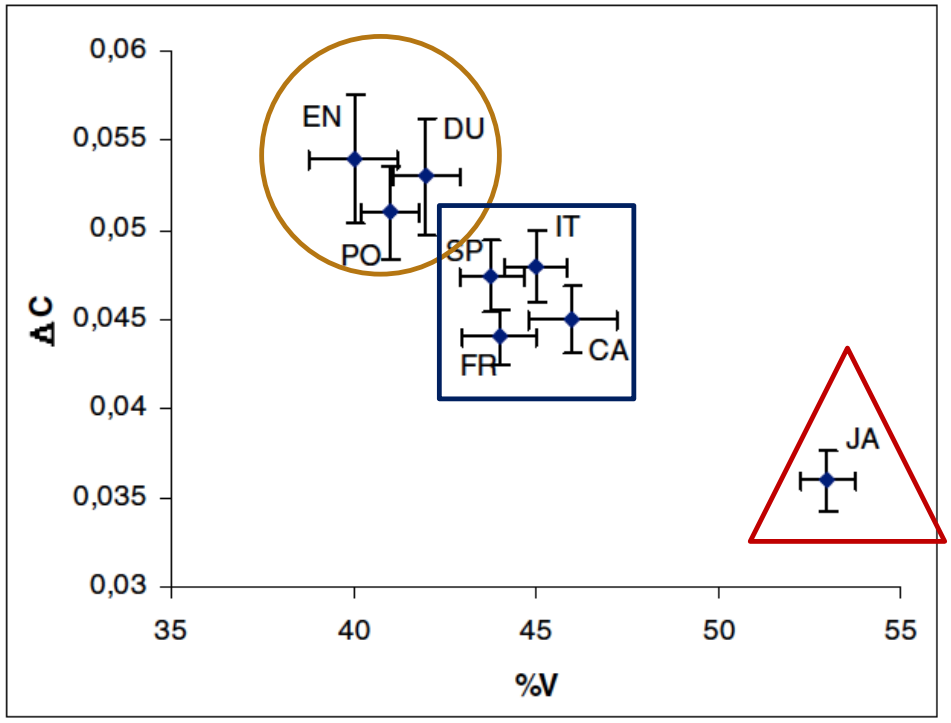
%V = — / —



$\Delta C = sd(—)$

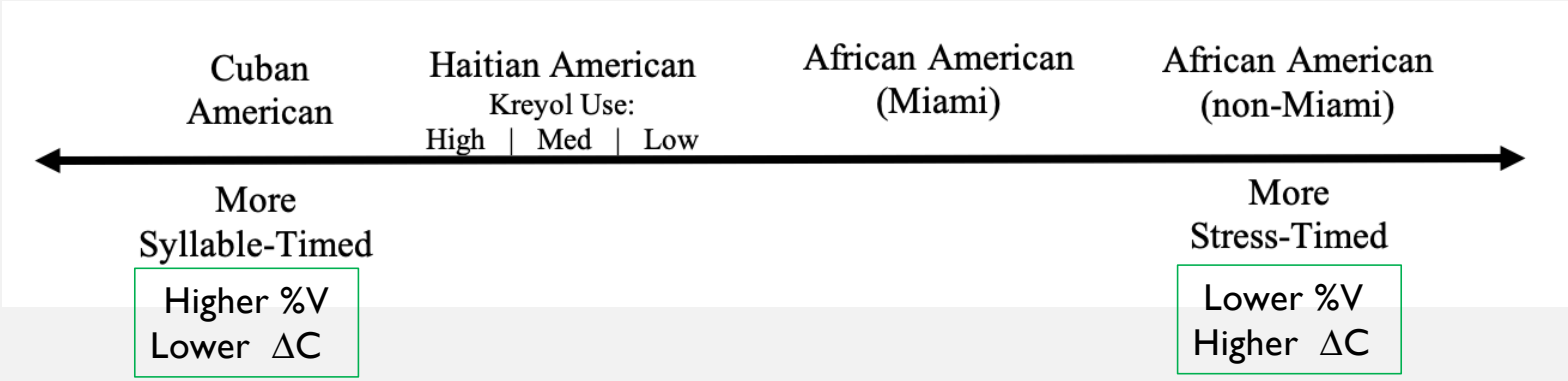


RHYTHM MEASURES: %V ~ ΔC



- stress-timed
- syllable-timed
- mora-timed

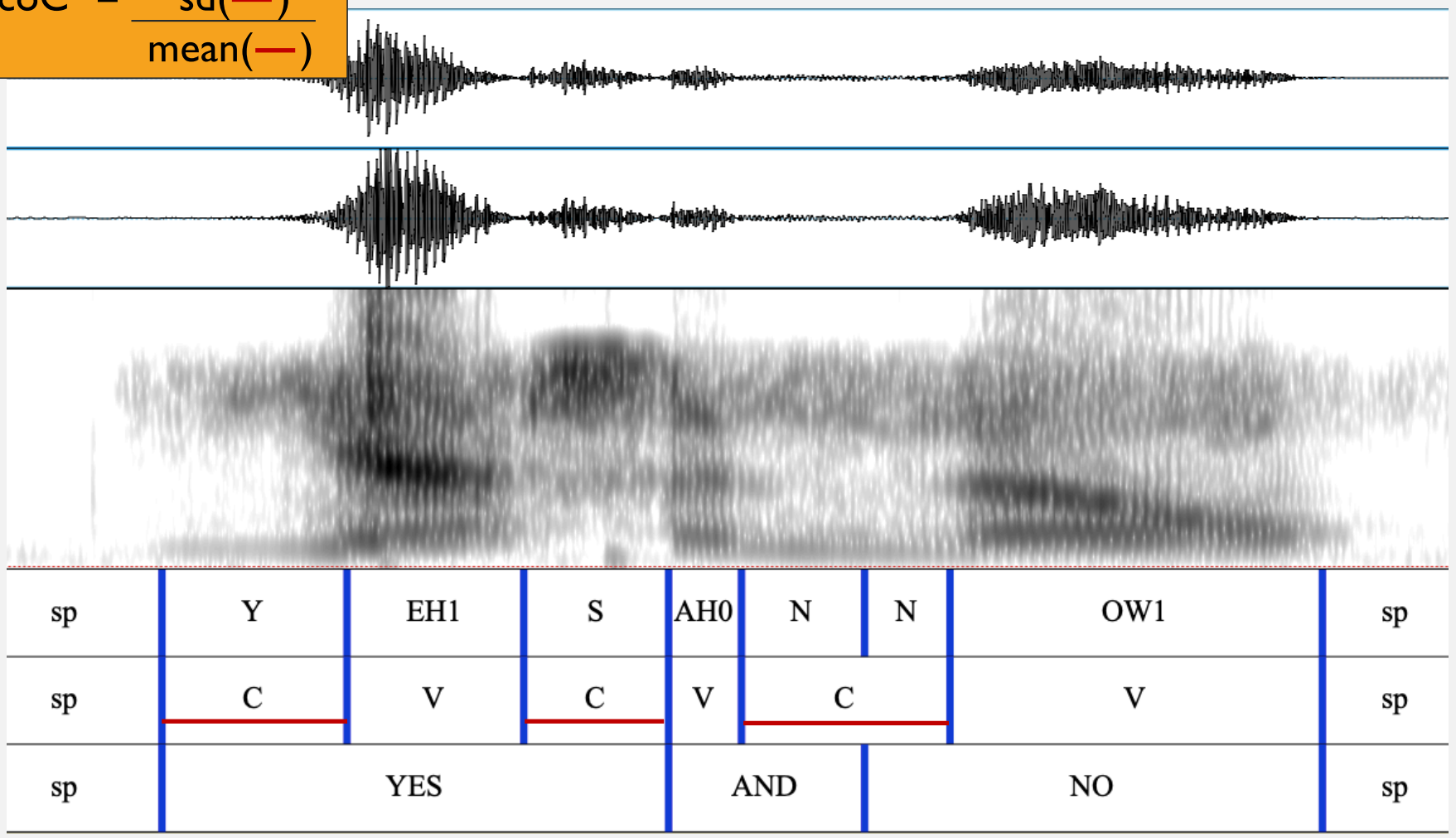
%V ~ ΔC: PREDICTIONS



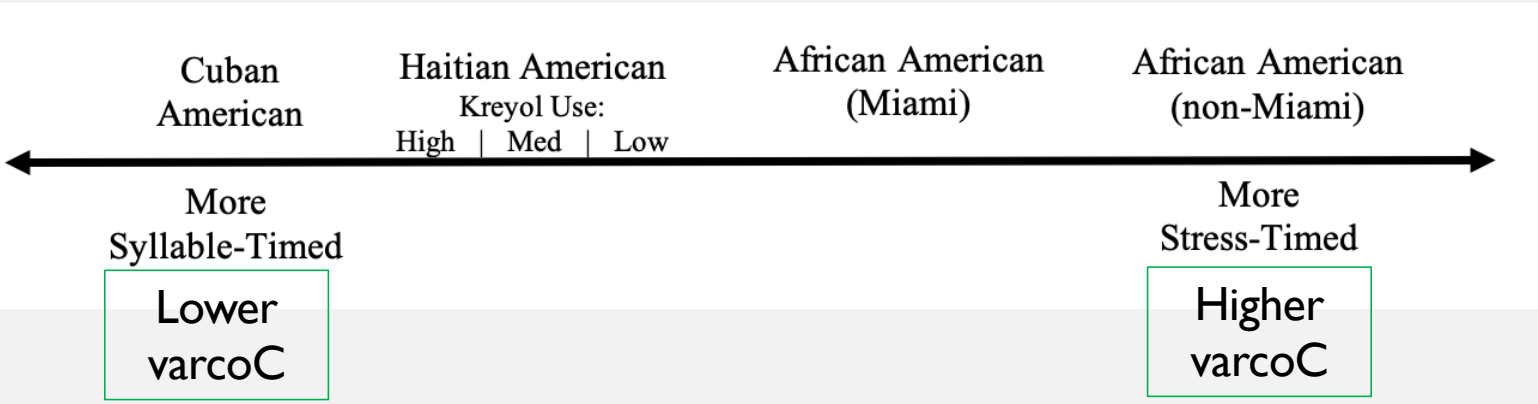
varcoC

(Dellwo and Wagner 2003; Dellwo 2006)

$$\text{varcoC} = \frac{\text{sd}(\text{—})}{\text{mean}(\text{—})}$$



varcoC: PREDICTIONS



RQ2A

RQ2a: ANALYSIS

- Linear Mixed Effects Model
- Only ran on Haitian subset of data
  - Dependent variables: The 4 rhythm measures
  - Independent variable: Kreyol Use ~ sum contrasts
  - Random Intercept: Participant
  - Random Slope: Topic ~ Participant

RQ2a

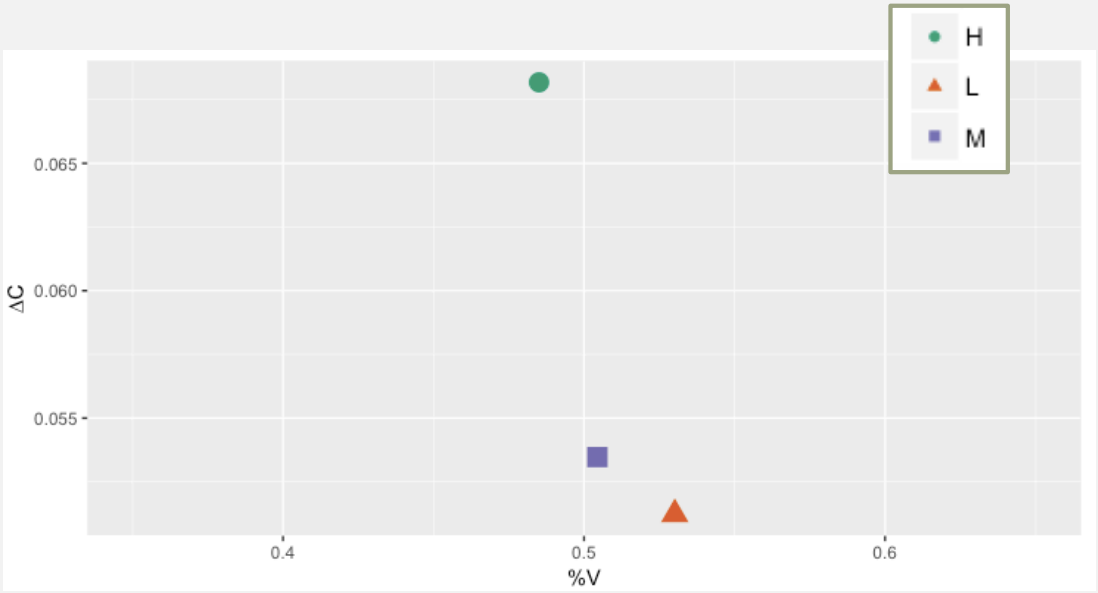
- Kreyol Use

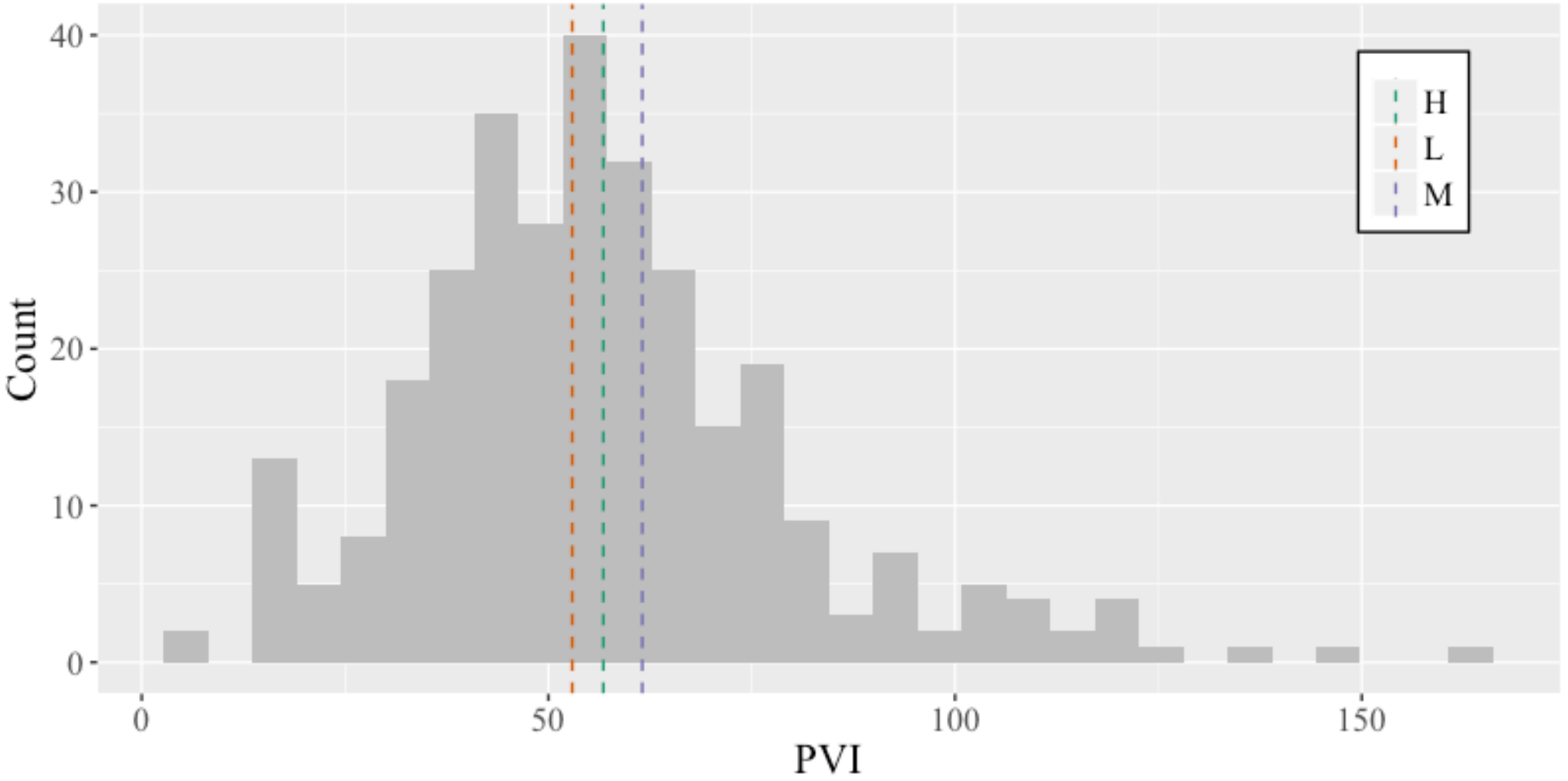
	Do you speak Kreyol?	Do you speak Kreyol with your friends/at work?
High	Yes	Yes
Medium	Yes	No
Low	No	No

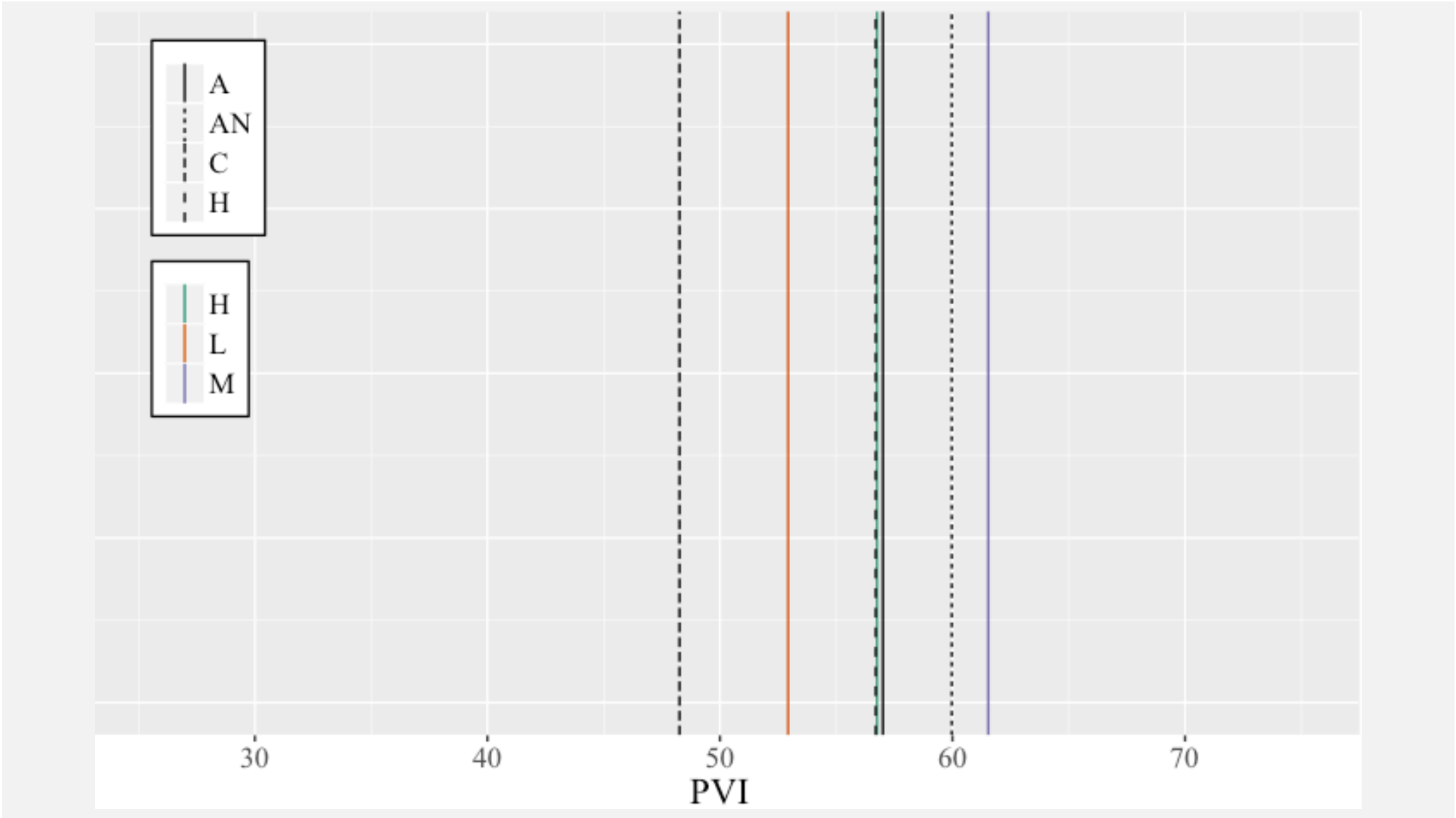
RQ2a: Results

ΔC

- Low Kreyol use ~ mean ($t = -2.50$, $p = 0.021$)
- High Kreyol use ~ mean ($t = 4.26$, $p < 0.001$)




40
30
20
10
0
Count
0
50
100
150
PVI
H
L
M


A
AN
C
H
H
L
M
30
40
50
60
70
PVI

RQ2a: DISCUSSION

	Utterances
High	161
Medium	62
Low	82

- Future research:
  - Haitian Kreyol rhythm test
  - Proficiency test of Haitian Kreyol
  - Ethnic Orientation
  - Children