

Intra-Latinx Variation in the Prosodic Rhythm of English in California: The Influences of Dialect Contact and Language Ideology

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Introduction

- English typically characterized as stress-timed (Grabe and Low 2002)
- Yet many varieties exhibit a lesser degree of variability, due to the influence of syllable-timed substrate languages (Low, Grabe, and Nolan 2000, Thomas and Carter 2006, Szakay 2006, Coggshall 2008, Torgersen and Szakay 2012, Thomas and Kendall 2019, Carter, López Valdez, and Sims 2020, Sims forthcoming).

Variation in prosodic rhythm is the product of not only language contact and dialect contact, but also ideologies about ethnicity and ethnically marked ways of speaking.

Syllable-Timing ~ Low Durational Variability

- The myth of isochrony
- Syllable-timed vs. stress-timed dichotomy better conceptualized as a continuum



Syllable-timed Substrate Language Influences on English

Relatively less durational variability (lower nPVI*) has been observed in

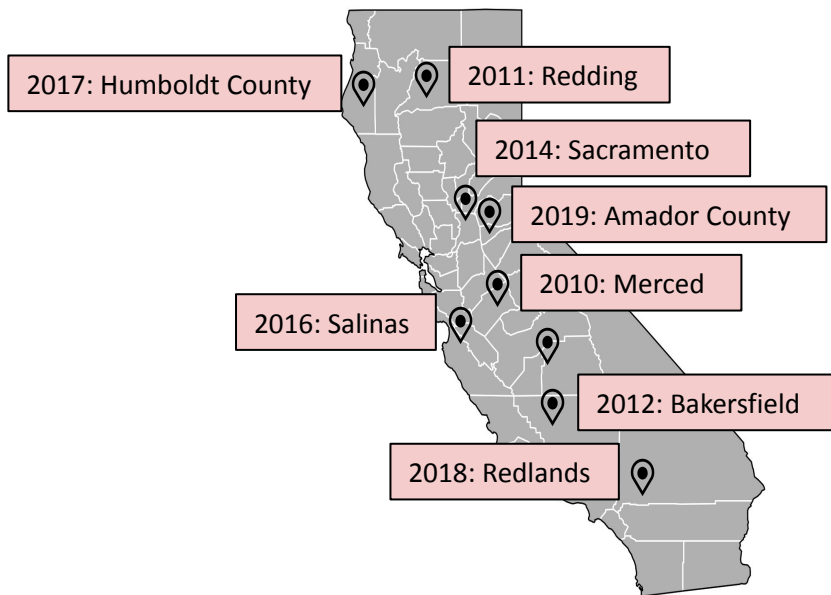
- Latinx varieties of English (White and Mattys 2007, Thomas and Kendall 2019, Carter, López Valdez, and Sims 2020)
- English of ex-slaves (Thomas and Carter 2006)
- Maori English (Szakay 2006)
- Cherokee English (Coggshall 2008)
- Multicultural London English (Torgersen and Szakay 2012)

*nPVI = measure of variability in vowel duration between adjacent syllables, normalized for speech rate

Prosodic Rhythm Variation in California

- Do we observe systematic differences in prosodic rhythm *among* Latinx speakers of English in CA (Carter, López Valdez, and Sims 2020; note intra-Latinx variation in light // and TRAP in Podesva et al. 2017 and Podesva et al. 2020)?
- Has relatively more syllable-timing in minoritized varieties influenced the local variety (Torgersen and Szakay 2012)?
- Do Native American speakers of English exhibit greater syllable-timing (Coggshall 2008, Newmark, Walker, and Stanford 2015)?

Voices of California



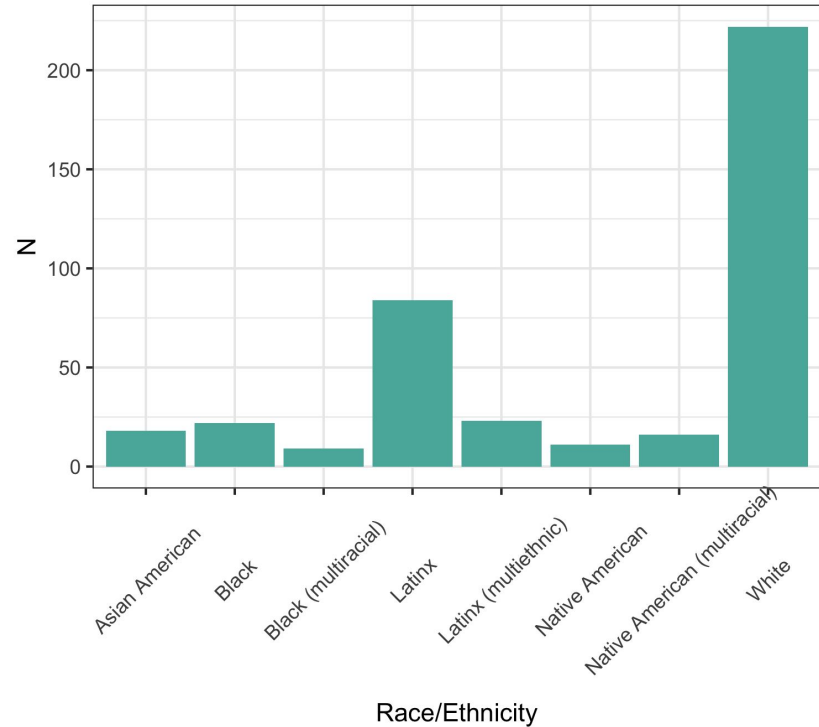
Sociolinguistic interviews by Stanford University student and faculty fieldworkers

Data Collection

- Snowball sampling, mixed demographics
- Interviews, word lists, map tasks with each speaker
- Typically 100+ interviews per site, over 900 in corpus

Data

- 416 interviews
- 234 F, 181 M, 1 NB
- Diverse in race/ethnicity, educational attainment
- Hand-transcribed in Transcriber, ELAN
- Force-aligned with FAVE-align (Rosenfelder et al. 2011)



Vocalic nPVI

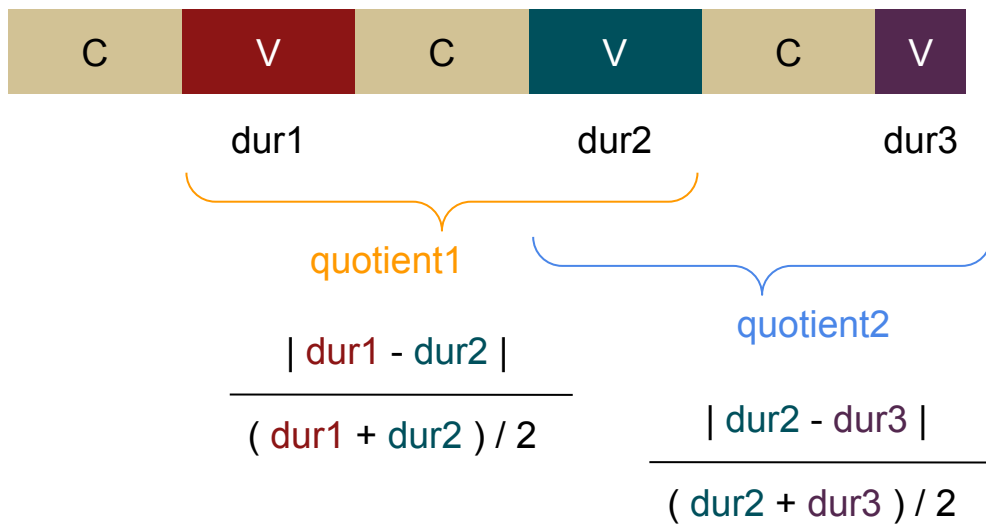
$$nPVI = 100 \times \left[\sum_{k=1}^{m-1} \left| \frac{d_k - d_{k+1}}{(d_k + d_{k+1})/2} \right| / (m - 1) \right]$$

Grabe and Low (2002)

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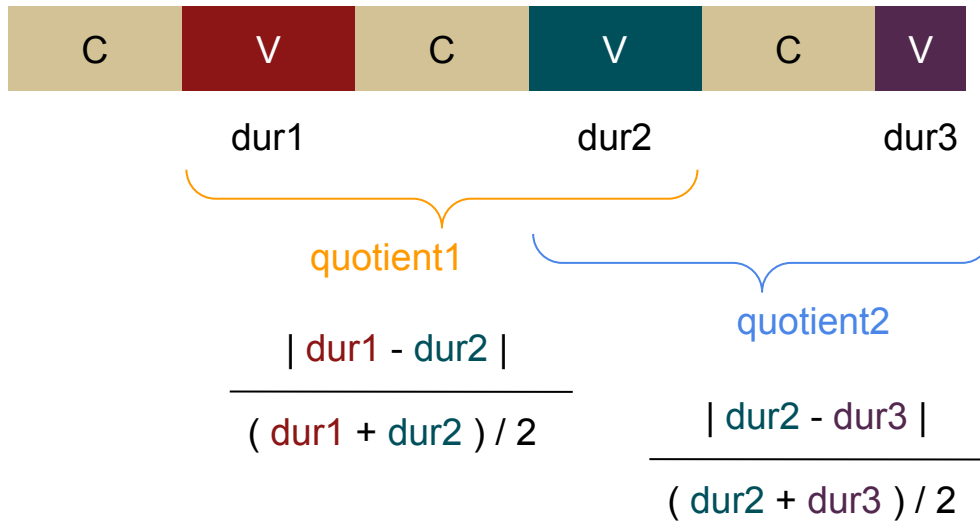
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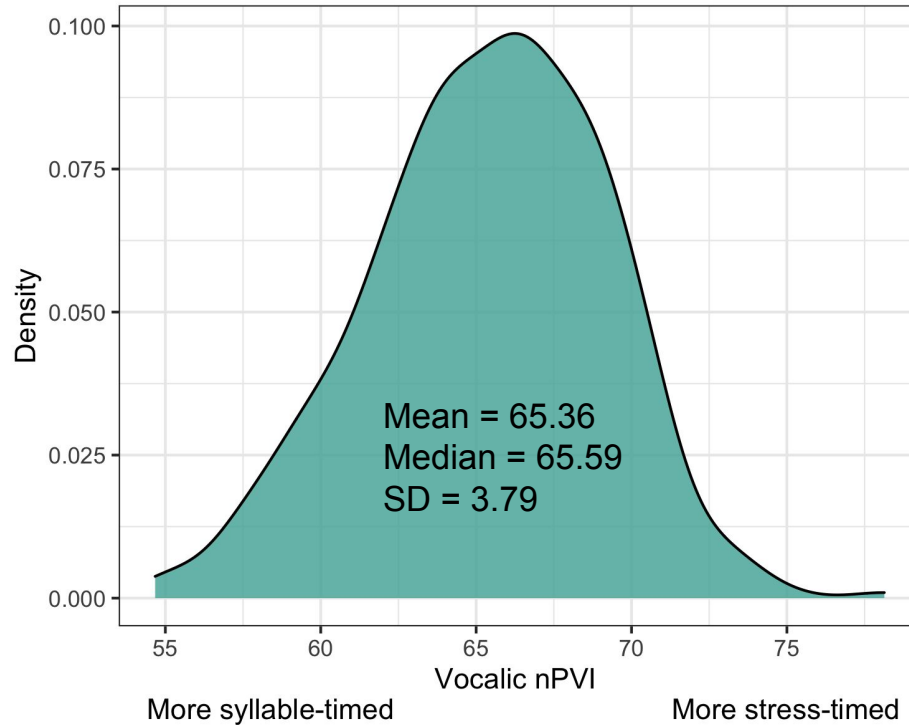
Grabe and Low (2002)



$$nPVI = \frac{\text{quot1} + \text{quot2} + \dots \text{quotn}}{n}$$

lower nPVI = more syllable-timed
higher nPVI = more stress-timed

Operationalizing nPVI



- Vocalic nPVI (also CnPVI, ΔV , Varco ΔV) computed by Praat script* following methods in Torgersen and Szakay 2012
- Did not exclude phrase-final feet, so PVI values higher than in studies that follow Thomas and Carter (2006)

* Thanks to Anita Szakay for sharing Praat script

Analysis

Exclusions

- Speakers with nPVI < 30
- Speakers from under-powered categories
 - › Non-binary: 62.59
 - › Middle Eastern: 67.42 (mean)
 - › Race/ethnicity unreported

Model

- Selected for lowest AICc
- $nPVI \sim \text{BirthYear} + \text{EthnoRacialCategory} + \text{Education}$

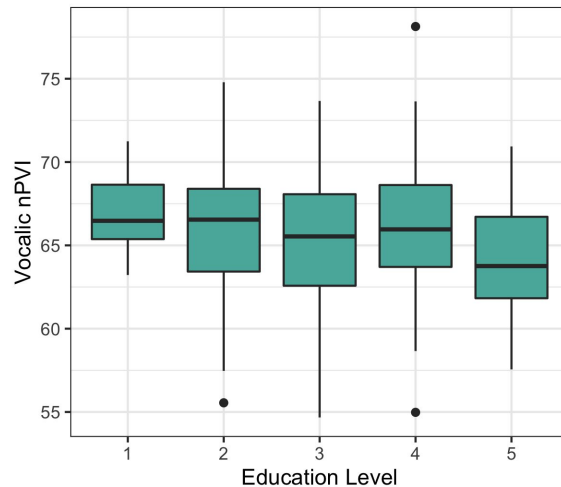
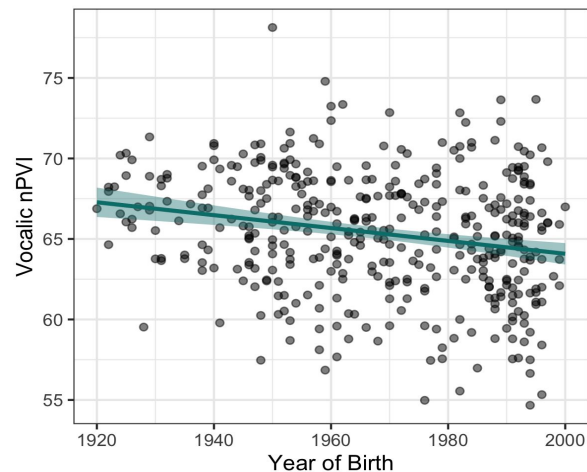
Results

Year of birth

- Significant ($p < 0.01$)
- $\beta = -0.25$
- Younger speakers are more syllable-timed

Education

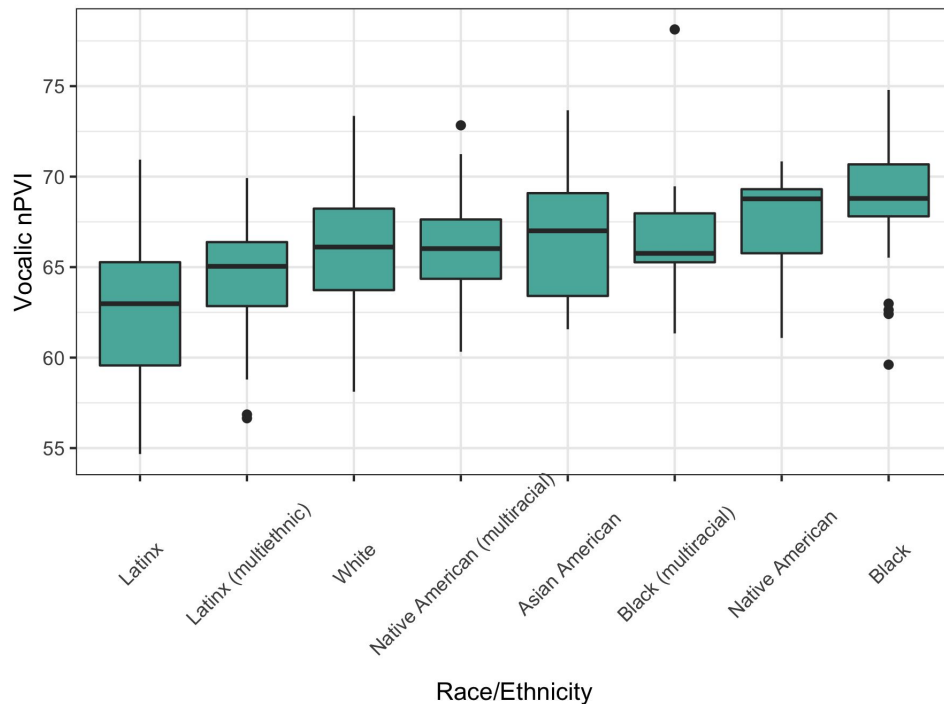
- Sig. only between groups 4 & 5 (college degree and grad. degree) ($p < 0.01$)
- $\beta = -1.4865$
- Group 5 more syllable-timed than group 4



Results

Ethno-racial category

- Reference level is 'white'
 - › Largest N
 - › Average nPVI values
- Black:
 - › $p < 0.001$, $\beta = 2.4076$
- Latinx:
 - › $p < 0.0001$, $\beta = -3.0135$
- Latinx (multiethnic):
 - › $p < 0.05$, $\beta = -1.5475$
- Native American:
 - › N.S.



Analysis

Question

- What factors structure prosodic rhythm? Transfer from substrate language? Language ideologies?

Filtering

- Only Latinx and multiethnic Latinx
- Only from predominantly Latinx field sites
 - › Bakersfield (53%) & Salinas (80%)

Model

- $nPVI \sim \text{BirthYear} + \text{FieldSite} + \text{Bilingualism}$

Results

Field site

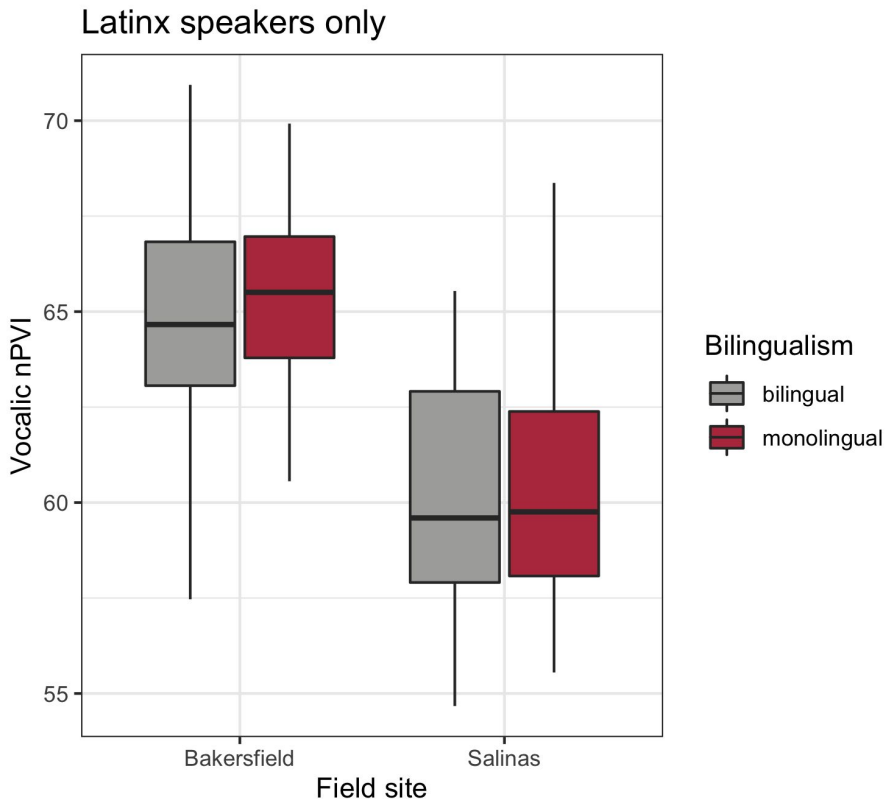
- Salinas more syllable-timed than Bakersfield
 - › $p < 0.0001$, $\beta = 2.4690$

Bilingualism

- Not significant

Year of birth

- Not significant



Discussion

more syllable-timed

more stress-timed

more Latinx

less Latinx

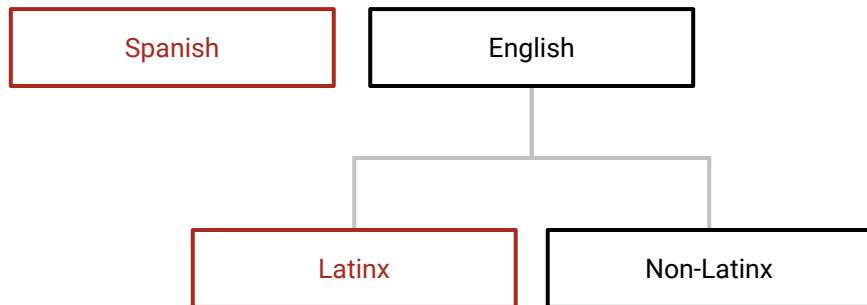
Spanish

English

Discussion

Fractal Recursivity

(Irvine and Gal 2000, Gal and Irvine 2019)



more syllable-timed

more Latinx

more stress-timed

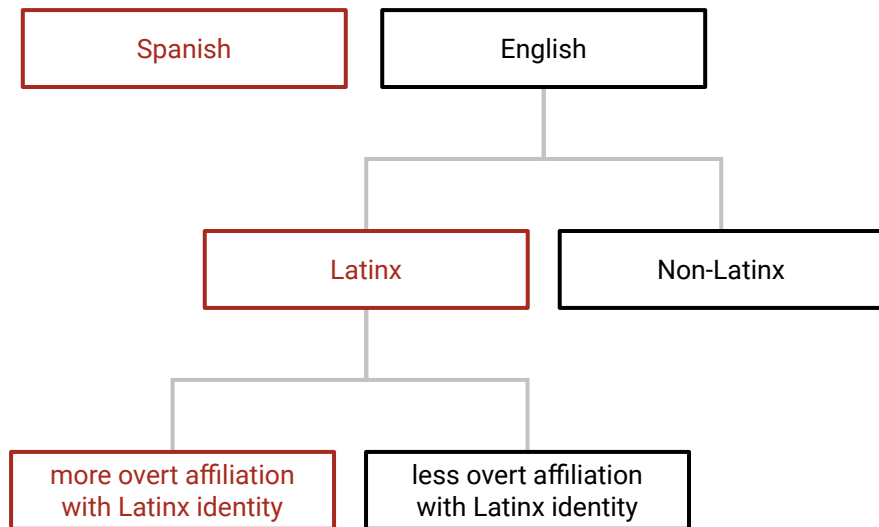
less Latinx

Latinx speakers exhibit lower nPVI than speakers of other ethnicities.

Discussion

Fractal Recursivity

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more syllable-timed

more Latinx

more stress-timed

less Latinx

Latinx speakers exhibit lower nPVI than speakers of other ethnicities.

Latinx speakers from SAL exhibit lower nPVI than Latinx speakers from BAK.

Prosodic Rhythm and Language Ideologies

Rhythm patterns are further structured by ideologies regarding **Latinx identity** and **English-Spanish bilingualism**.

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Stress-timed Speakers (highest nPVI values)

- Viewed standard varieties of English as symbols of upward mobility
- Strove to dispel myths associated with Latinx speakers

Syllable-timed Speakers (lowest nPVI values)

- Viewed Spanish and Latinx varieties of English as a means of combating white privilege
- Expressed a desire to remain in their predominantly Latinx communities

Language Ideologies: Bakersfield

When I started high school, I don't know why I felt that because of me being Puerto Rican that the only thing that I could do in high school was take woodshop or metal shop. Because I thought that typing and anything that had to do with any- you know typewriters or anything like that was for the white kids, that only the white kids could do that.

— Speaker A from Bakersfield (b. 1952, Bilingual, highly stress-timed: nPVI = 70.63)

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*Yeah, I was bilingual ever since I was a little kid and it's funny I never— **tried to apply it out in the workforce. Because I never — I didn't think nothing of it.** It wasn't such a big issue back then when I was a kid to be bilingual. You were just bilingual.*

— Speaker B from Bakersfield (b. 1953, Bilingual, highly stress-timed: nPVI = 70.94)

Language Ideologies: Bakersfield

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Bakersfield Latinx speakers face a strong socioeconomic pressure to accommodate to majority patterns, resulting in more stress-timed speech even for bilingual speakers.

Language Ideologies: Salinas

*Growing up, I always like, thought everybody was Mexican. So, um just because they like looked like me or my family. And I was like, "Oh, they're probably Mexican too" [...] I **didn't** really become aware of race until I got to college.*

— Speaker C from Salinas (b. 1994, Bilingual, highly syllable-timed: nPVI = 54.67)

Language Ideologies: Salinas

Growing up, I always like, thought everybody was Mexican. So, um just because they like looked like me or my family. And I was like, "Oh, they're probably Mexican too" [...] I didn't really become aware of race until I got to college.

— Speaker C from Salinas (b. 1994, Bilingual, highly syllable-timed: nPVI = 54.67)

*They've never really had problems not speaking English here, and someone's mentioned this before, and I agree with them, that **in Salinas you can practically get by your whole life without having to speak English, you know. You can just speak Spanish your whole life.***

— Speaker D from Salinas (b. 1996, Bilingual, highly syllable-timed: nPVI = 55.33)

Language Ideologies: Salinas

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Salinas Latinx speakers hold a largely positive view of bilingualism and Latinx varieties of English, resulting in more syllable-timed speech.

Conclusion

- Influence of both language contact (between English and Spanish) and dialect contact (between Latinx and non-Latinx varieties of English) on prosodic rhythm
- Prosodic rhythm is a resource for constructing Latinx identity, across and within groups.

Future Work

- Other measures of durational variability
- Intraspeaker variation as a window into use of prosodic rhythm
variation as a dynamic resource for constructing ethnicity

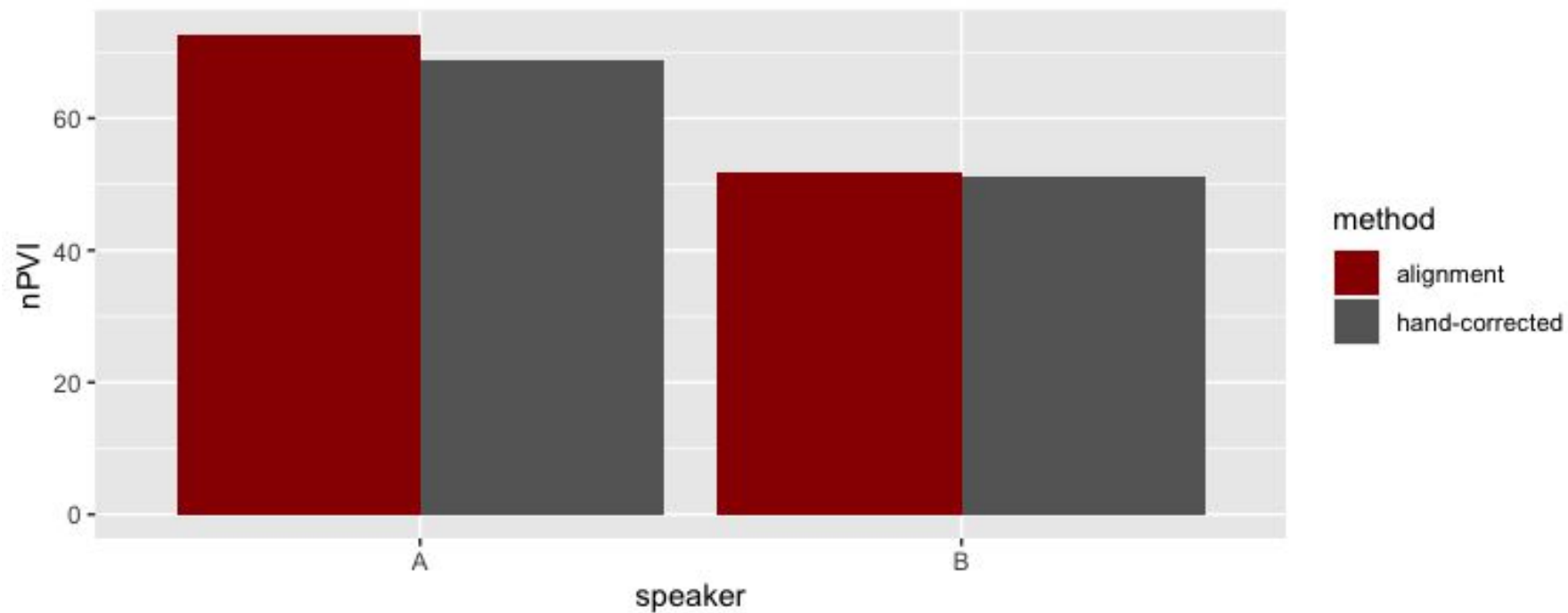
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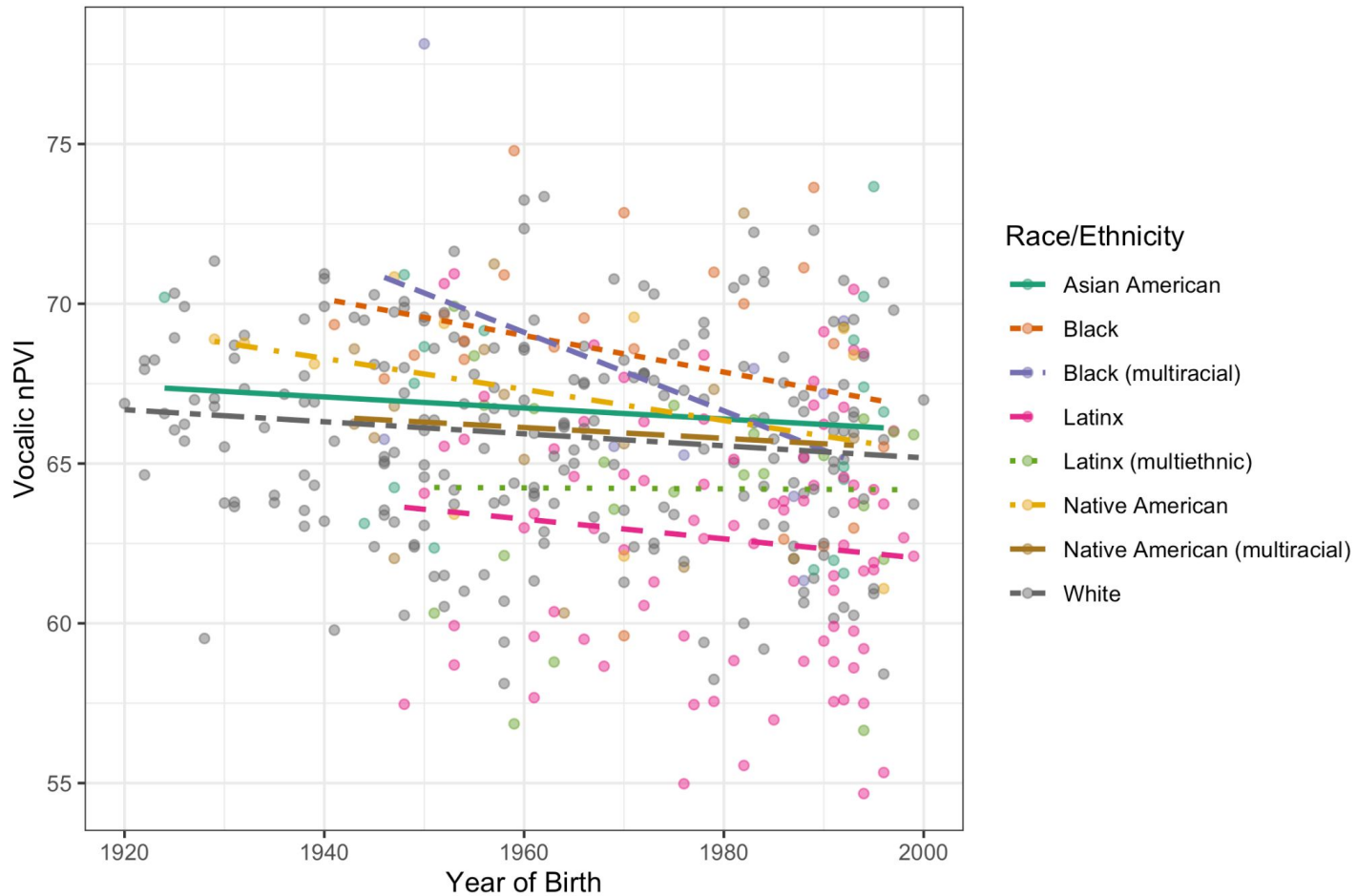
GURT organizers

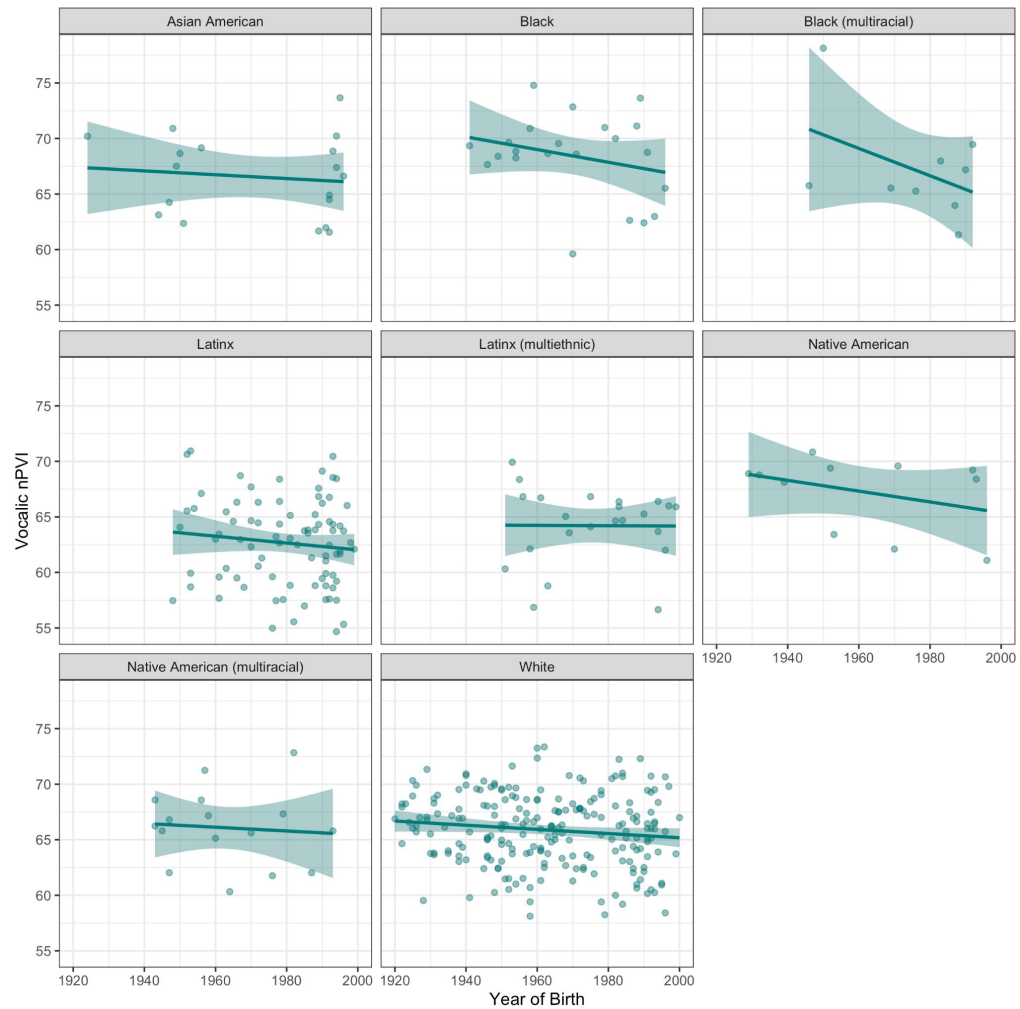
Interactional Sociophonetics Laboratory Members

Stanford University and the Richard Karp Foundation

Voices of California Project Interviewees and Researchers







Differing Ideologies on Bilingualism & Language Contact

I wanted to get on the record that fact that not all people with a Spanish surname have an accent and there're some of us who've been here and I — I think if you were to talk to me over the phone or listen to my voice you wouldn't be able to tell my ethnicity and I wanted to dispel those stereotypes and also uh most of the time when people do these studies people of color are often excluded and I wanted to be part of that particular voice.

— Speaker from Sacramento (Bilingual, nPVI = 67.10)

*I see myself as Me- not necessarily Mexican American uh, mostly I look at it, just my culture. I- I look at my culture. Wh— what do I closely identify with, what resonates in me, and it's Mexican culture. Um if anything Americans are close second because I was and I definitely appreciate and enjoy things like you know NBA, sports, American past times and things and you know? I'm enjoying them with my children, so I'm able to pass it on, **but if it came down to it that's what I would identify myself as.***

— Speaker from Sacramento (Bilingual, nPVI = 54.98)