



Evidence for Increasing Sensitivity to Phonetic Environments Over Time?

The Development of Karen Refugee English

Amy Reynolds | amyrey@live.unc.edu | amyrey.web.unc.edu

Overview

Big Question: When does phonetic environment sensitivity in Consonant Cluster Reduction (CCR) emerge in the second language acquisition process?

Study: Data from sociolinguistic interviews with Karen refugees is used to examine the changes in CCR rates over time.

Conclusion: For Karen second language learners of English, CCR does not correspond with length of residency, indicating that CCR rate patterns take longer to emerge than previously thought.

The Phenomenon: Consonant Cluster Reduction

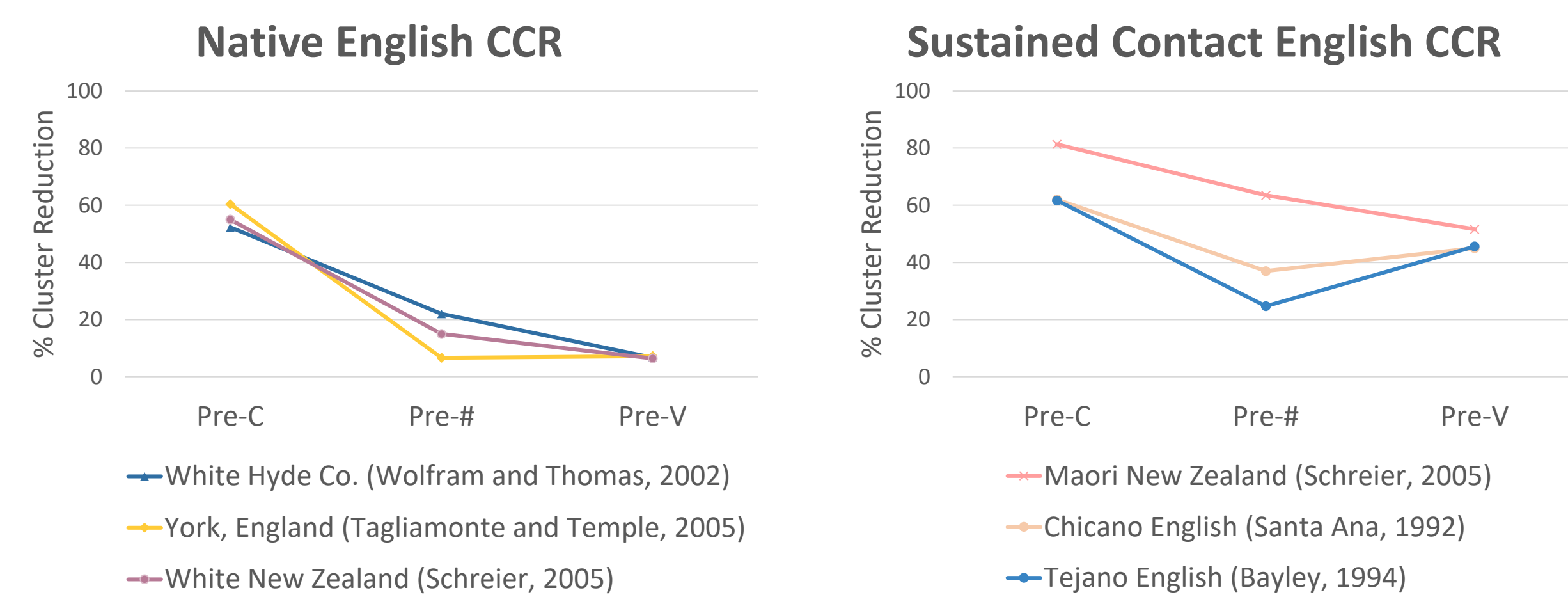
Consonant Cluster Reduction (CCR) occurs when a word-final consonant cluster (e.g. [st] in *west*) is reduced, typically to a single segment (e.g. *wes' side*).

Reduction rates depend on following phonetic content

e.g. *the blin' man* is more likely to reduce than *the blind ape*

Cluster Reduction has been found in all varieties of English.

Varieties of English from sustained English contact show rates that are higher than native varieties of English. (Schreier, 2005)



Sustained Contact English varieties developed in communities whose historical language did not allow coda clusters.

How and when did these language varieties acquire CCR patterns that are sensitive to the following phonetic environment?

Does phonetic environment sensitivity in CCR rates occur in second language acquisition? If so, when?

Refugee communities allow for early observation of future Sustained Contact English varieties.

The Problem

Wolfram (1985) studied Vietnamese refugees in America. Found that Length of Residency corresponded with CCR rates and following phonetic environment sensitivity within the first seven years of resettlement.

However, no studies have tried to replicate Wolfram's work among other refugee populations.

Research Question and Study

What effect does Length of Residency have on the consonant cluster reduction rates and patterns of second language learners?

This study presents the preliminary results from 24 sociolinguistic interviews conducted with members of the Karen refugee community throughout the United States.

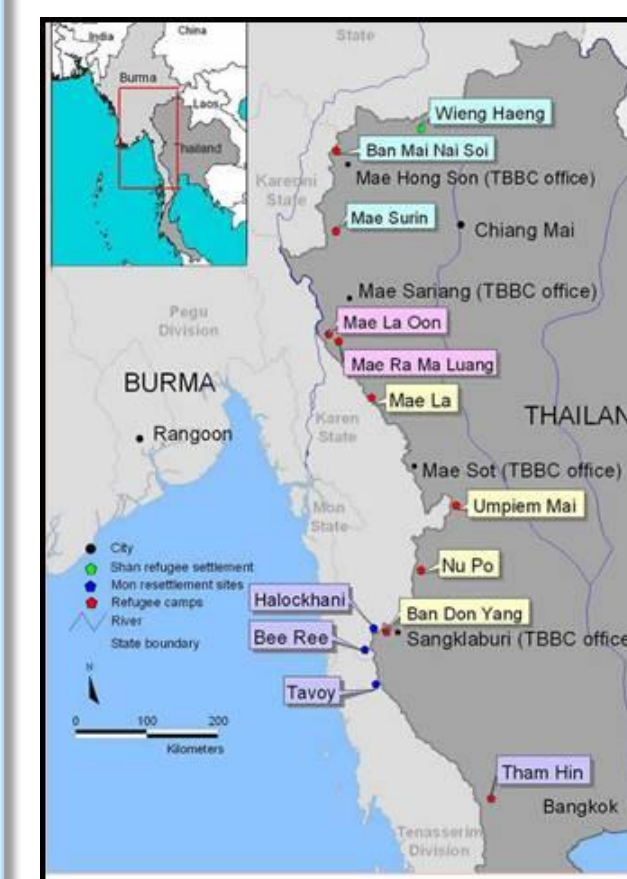
The Karen

Originate from Myanmar (formerly known as Burma). Fled into Thailand from government persecution.

Made a priority refugee group in 2006.

Thousands have resettled throughout the United States, primarily in the South and Midwest.

Expected to be a **long-term community** in the United States. → Likely to develop a **new sustained-contact English variety**.



Native Language: S'gaw Karen

- Tibeto-Burman language family (ethnologue, 2016)
- Coda clusters not allowed.

Initially, high rates of English CCR anticipated regardless of following phonetic environment.

Speakers who have lived in the United States longer (i.e. have higher Lengths of Residency) should show greater sensitivity to following phonetic context.

Methods

Interviews

24 total

9 Males 15 Females

Ages: 18 – 53

Lengths of Residency: 1 – 9 yrs

14-30 minutes

Factors Recorded:

Age of Resettlement
Length of Residency

Topics:

Immigration History
Personal History
Cultural Traditions

Coding

Transcribed in standard orthography

Followed Schreier (2005): All non-function words (i.e. leaving out *just*) that were expected to end in a sequence of two consonantal segments.

Coded for:

- Segmental Cluster Content
- Following Phonetic Environment

Only clusters that met the following criteria were extracted for analysis:

- Ended in a stop
- Were not followed by a homorganic consonant
- Ended in a stressed syllable

Analysis

Type-token frequency control: first three instances of each word only

Cluster waveforms and spectrograms analyzed in Praat.

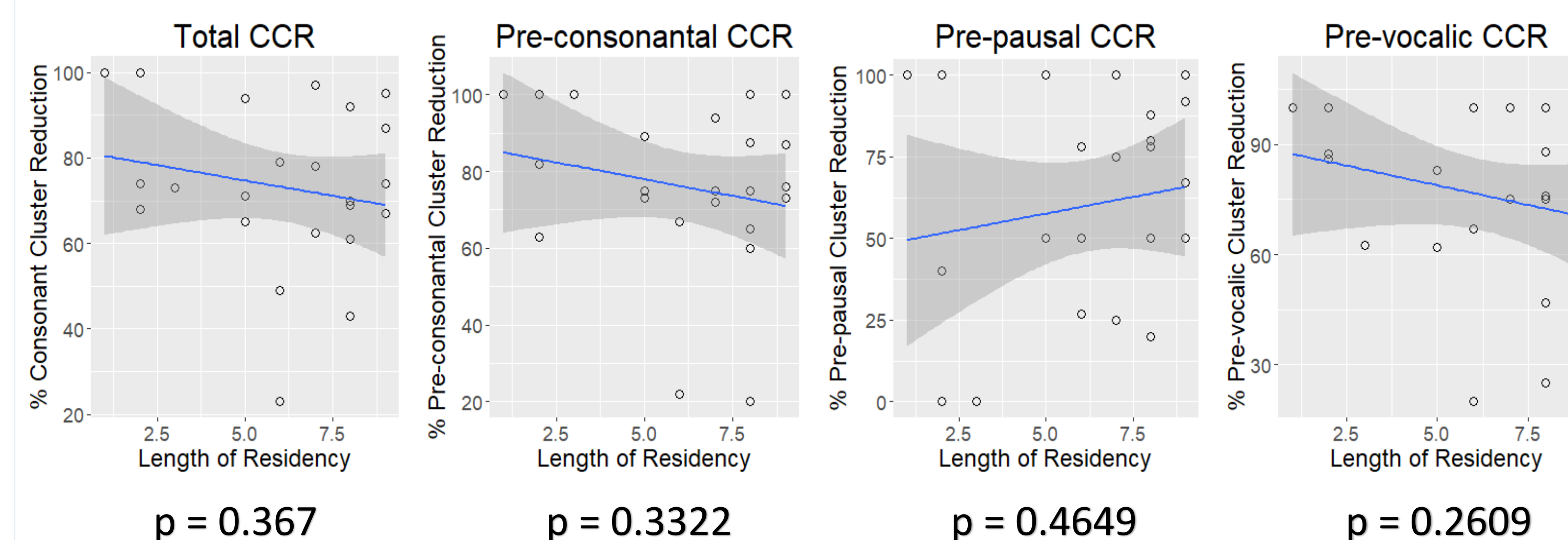
Four CCR rates were calculated for each interview:
Pre-consonantal
Pre-pausal
Pre-vocalic
Total

Linear regression analysis using the lm() function in R.

Independent	Dependent
Length of Residency	Pre-consonantal CCR
	Pre-pausal CCR
	Pre-vocalic CCR
	Total CCR (per individual)

Results:

CCR rates are not affected by Length of Residency



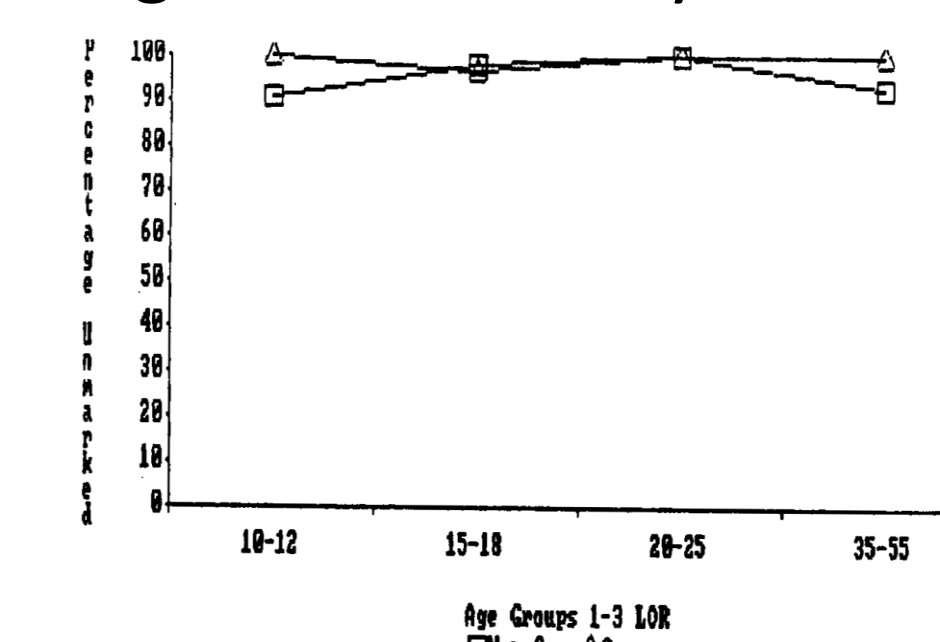
Conclusion:

CCR unaffected by first 9 years of Karen resettlement

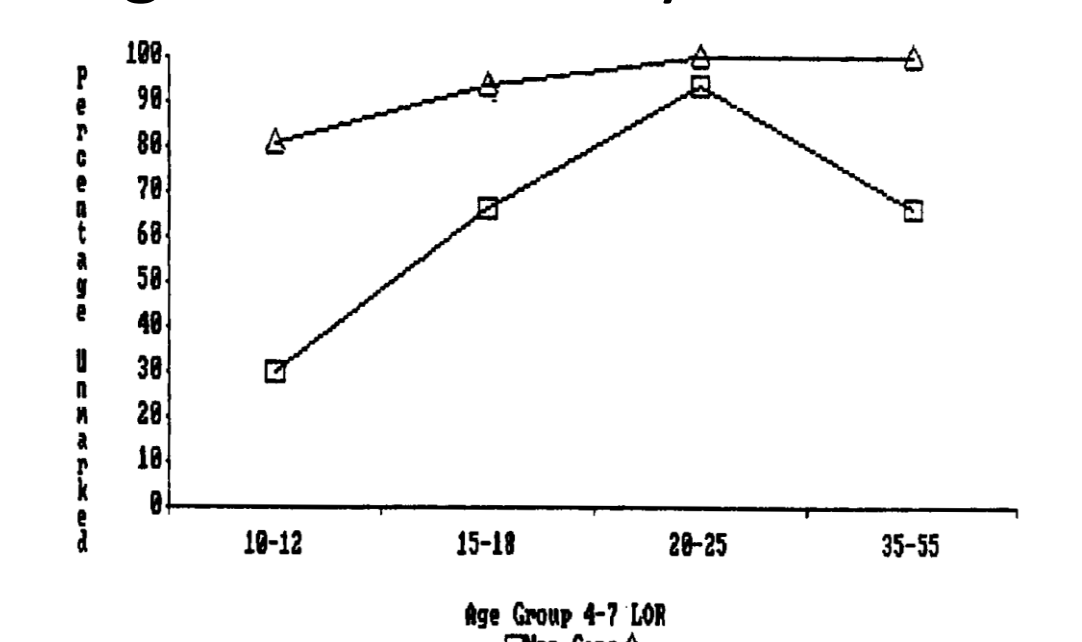
Results from this study challenge findings from earlier studies like Wolfram (1985)

Wolfram (1985) collapsed the following phonetic environments into the categories "Consonantal" and "Non-consonantal"

Length of Residency: 1-3 Years

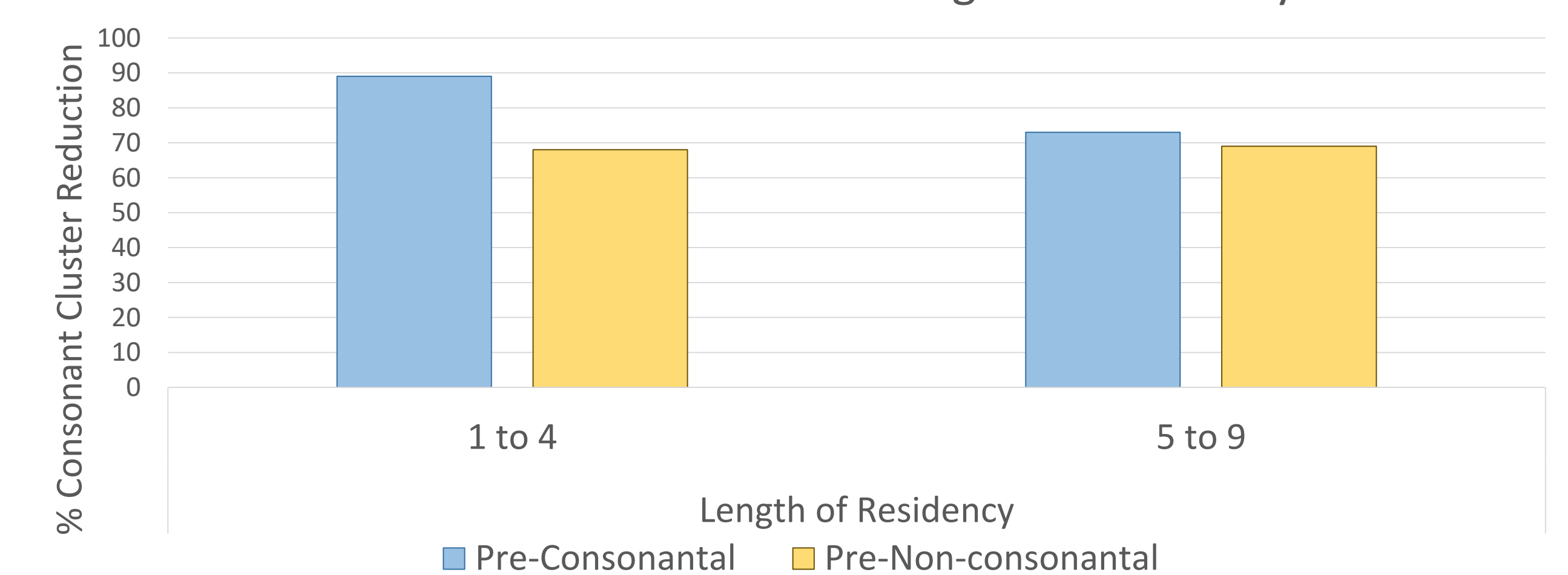


Length of Residency: 4-7 Years



Even with the environment categories collapsed, Wolfram's earlier findings are not replicated by the Karen refugee population.

Cluster Reduction Based on Length of Residency



Age of Resettlement (AoR) alone and in combination with Length of Residency (LoR) also show no significant effect on CCR rates.

CCR vs. AoR	p - value
Pre-consonantal	0.8475
Pre-pausal	0.5358
Pre-vocalic	0.924
Total	0.6829

CCR vs. AoR + LoR	p - value
Pre-consonantal	0.5864
Pre-pausal	0.5707
Pre-vocalic	0.5107
Total	0.6525

Further Research

Additional Interviews awaiting coding and analysis

This study represents the data produced by 24 out of 50 interviews

The effect of Tense Unmarking?

This morpho-phonological process shown by second language learners may have an effect on CCR rates.

Regional/Gender Effects?

Data from four locations; unequal ratio of females to males

Select References

- Bayley, R. 1994. Consonant cluster reduction in Tejano English. *Language Variation and Change* 6: 303-26.
- Lewis, M. Paul, Gary F. Simons, and Charles D. Fennig (eds.). 2016. *Ethnologue: Languages of the World*, Nineteenth edition. Dallas, Texas: SIL International. Online version: <http://www.ethnologue.com>
- Refugee Processing Center. 2016. *Refugee Admissions Report December 31, 2016*. Available at: <http://www.wrapsnet.org/admissions-and-arrivals/>
- Santa Ana, O. 1992. Chicano English evidence for the exponential hypothesis: A variable rule pervades
- Schreier, D. 2005. Consonant Change in English worldwide: Synchrony meets diachrony. New York, NY: Palgrave Macmillan, 2005.
- Tagliamonte, S. and Temple, R. 2005. New perspectives on an ol' variable (t,d) in British English. *Language Variation and Change* 17: 281-302.
- Wolfram, W. and Thomas, E. 2002. *The Development of African American English*. Oxford, UK: Blackwell Publishers, 2002.
- Wolfram, W. 1985. Variability in Tense Marking: A Case for the Obvious. *Language Learning* 35(2): 229-53.