How to make an Academic Poster

An Opinionated Tutorial

Joey Stanley
September 2019

Why this Workshop

Potentially lots of firsts—scary!

- The first time you've done a study from start to finish.
- The first time you've created an academic poster.
- The first time you've been to a conference.

This workshop

- I had no idea what I was doing too.
- I want this to be the workshop I wish I had had my first time through.

My experience

- I've been to lots of conferences.
- I've presented four posters.

Three Aspects to a Poster Presentation

The Research

- Intro
- (Data)
- Methods
- Results
- Conclusion

The Poster

- Layout
- Visuals
- Color
- Whitespace
- Aesthetics

The Presentation

- Elevator pitches
- Know your audience
- Stand-alone?
- Online distribution

The Research

Research

Above all else, the research should be good!

Research

Picking a research topic

- Think of a linguistic phenomenon you're interested in.
- If you're not sure, think of a subfield or a language you like.
- If you're stuck, was there a term paper or homework assignment you really enjoyed? That you wish you could explore further if you had the time?

A good research topic

- Ideally it should be innovative, timely, and relevant, building upon the work of others by examining a gap in the literature that should be filled.
- For an undergrad poster session, the stakes are pretty low.

Outline of your Research

1. Introduction
   - Brief review of literature.
   - Show the need for your study.
   - Include citations
   - Your hypothesis
2. Methods
   - Data source
   - How you analyzed your data
   - Tools (R, Praat, Excel, etc.)
   - Statistical tests
3. Results
   - The results of your analysis
   - Ideally, with visualizations
4. Conclusion
   - A discussion about what all this means
   - The take-home message: what you want others to remember

This outline the same as an academic paper and an oral presentation!

The Poster

The Nuts and Bolts

Size and Orientation

- Most common: 3ft by 4ft
- Sometimes up to 5 feet (but don't)
- Usually horizontal

Software

- Most common: PowerPoint
- If you have computer skills: R, LaTeX
- If you design: InDesign, etc.

The physical poster

- Tate Print & Copy, takes a day or two
- ~$22 for 3x4 (grad students for free through the grad school!)
- Text and visuals usually turn out fine.
- Other materials available ($$$)
- You'll probably need a poster tube (an annoying carry-on item)
- They like staying rolled up.

Visually Pleasing

Color See colorbrewer2.org or personal.sron.nl/~pault/ for good color schemes

- Background color should be muted. I use a very light gray.
- Choose 1 or 2 colors. Perhaps based on your school's colors.

Consistency

- Avoid sloppiness; consistent font sizes, margins, colors, etc.
- Make the effort to align things (to the 100th of an inch!)
- All parts of the poster should be crisp and balanced.

Font

- Choose a sensible (perhaps different) font. Palatino is safe.
- Complementary fonts for header and body look nice.

Layout

Layout

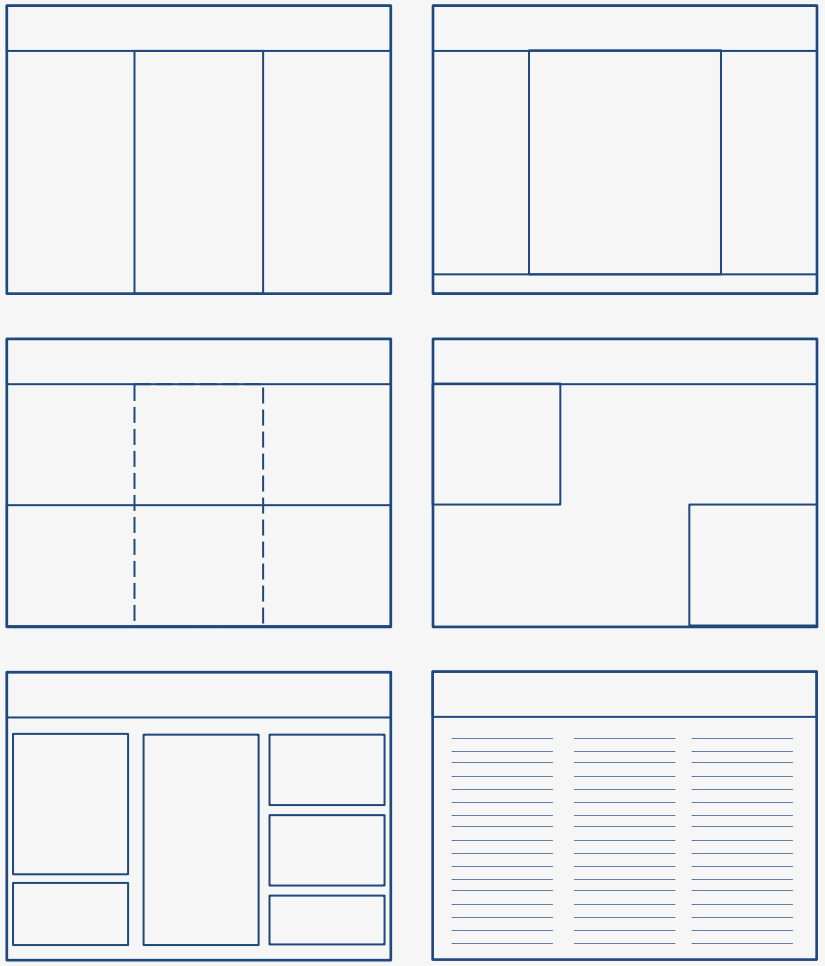
- Usually a 3-column layout, broadly interpreted.
- Usually top-to-bottom, left-to-right.
- Lines, implied lines, margins etc.

Other components

- Title, author, university at the top.
- References, acknowledgements at the bottom.
- Don’t be afraid of whitespace.

What goes in the largest section?

- Generally, the results section.
- A recent suggestion: have the conclusion in huge text.



Mike Morrison's Redesign

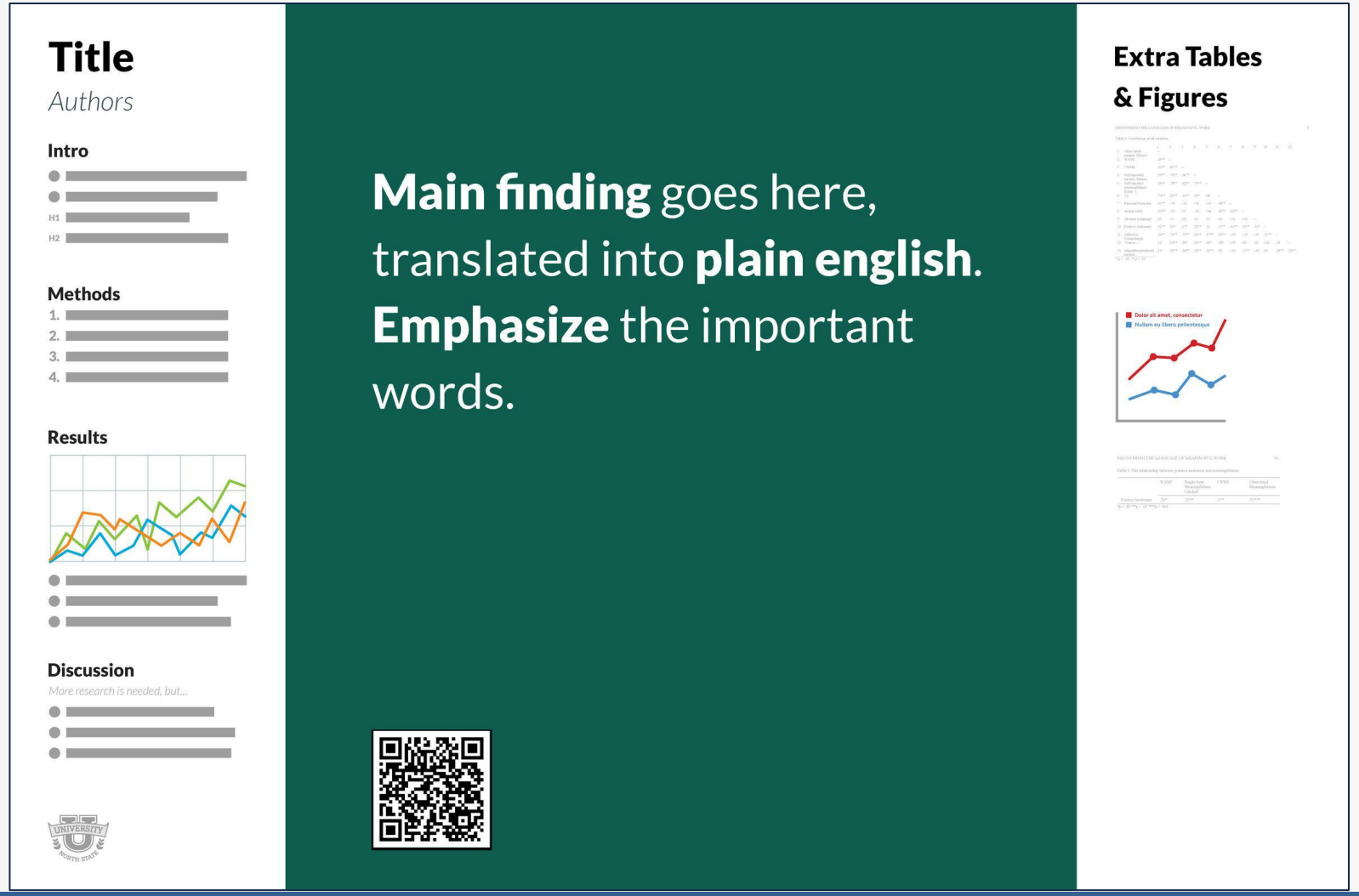
A redesign that emphasizes the important stuff.

Got quite a bit of attention from academics.

See his video here:
https://www.youtube.com/watch?v=1RwJbhkCA58&feature=youtu.be

See more examples

- @mikemorrison
- #betterposter



Avoid Text; Use Images

Be brief

- Use short, complete sentences.
- Arrange in bullet points.
- I try to keep text on one line.
- Word count: mine are 777, 928, 812

Use images

- A picture is worth 1000 words.
- If it can be said in an image, use one.

Guidelines to my Particular Layout

Joey Stanley

UNIVERSITY OF GEORGIA

Big text and objects

Header

- The section header is in a sans-serif font.
  - Specifically, it's Avenir size 44.
  - It's ½" from the border on the left, and ¼" on top.
- Subheaders are in Avenir size 30 and black.

Section Layout

- Red boxes are used to outline sections.
  - Mine are 15 inches wide with variable heights.
  - I like curved corners: these have a ½" radius to them.
- Everything is consistent to the 1/100th inch.
  - Vertical margins are ¾" and horizontal ones are ½".

Title and Footer

- Title is in size 72 sans serif, bold, white font.
  - Author is size 66 sans serif, white font (not bold.)
  - There is usually space on the right for a UGA logo.
  - The whole top stripe is 3 inches tall.
- Footer is 1.5 inches tall.
  - I put acknowledgements, the name of the conference, and a link to where you can download the poster.

Smaller text and objects

Body Text

- This is Iowan Old Style font, size 30.
  - I try to fit these sentences on just one line, if possible.
  - When I cite something, it's 2/3 the size. (size 20 font)
  - Try to put punctuation at the end of each sentence.
- These bullets are left-aligned with the header.
  - Sub-bullets are indented half an inch.
  - I avoid third-level indents.

Layout within sections

- There is some flexibility in the spacing.
  - There is a ½" margin on all sides from the red outline.
  - Temporary rectangles prevent spilling into the margins.
  - The bottom is variable: use vertical spacing carefully to avoid large white gaps.

References

- It's good to include them: someone you cite might see!
- Mine are size 18 font.

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The Presentation

What is a Poster Session Like?

Venue

- Big room.
- Lots of posters.

Schedule

- No other events.
- People wander.

Atmosphere

- Loud, crowded.
- Great networking!

Presenting your Research

Explain your research briefly

- Prepare summaries of various lengths (30s, 1m, 2m)
- Unless you have a really engaged person, don't talk for 10 minutes.
  - This is not an oral presentation in poster form: it's a different type of presentation

Cater to your audience

- People wander in and out, so be prepared to repeat yourself a lot.
- Be mindful of viewers: repeat key information to rope newcomers in.
- With experience, you'll know people's interests and can cater your pitch to them.

Two Competing Audiences

Live audience (At the conference itself)

- Don't expect people to read anything: they'll only look at pictures.
  - What you say is far more important.
  - You could have a poster of just visuals and people would be fine.

Online audience (After the conference)

- You can put your poster online
  - personal website, academia.edu, github, etc.
  - If you don't have one or don't care, then don't worry about this.
- They'll actually read the text.
  - In this case, more text is better!
  - The poster should self-explanatory enough for people to understand and potentially cite it.

SUMMARY

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Example Posters

Mostly found on Twitter
#LSA2019, #LSA2018, #LSA2017

The limited distribution of syllabic nasals in American English

Lisa Davidson, Shmico Orosco, & Sheng-Fu Wang *Department of Linguistics, New York University*

1. Introduction

- Representation & distribution of syllabic nasals in English has relied on impressionistic information & various analyses have been proposed (Trager & Bloch 1941, Wells 1995, Szigetvári 2002, Heselwood 2007, Polgárdi 2015)
  - Trager & Bloch (1941): AmEng [ən]/[n̩] are in variation ("stylistically determined"): butt[ən]/[n̩], rhyth[əm]/[m̩]
  - Wells (1995): Schwas are underlyingly present & a coalescence rule ([ə][+son C] → ∅ [+syll]) is more likely after alveolar stops, then [+son] C in BrEng.
  - Mora (2003): In BrEng, nasals are underlyingly syllabic & are realized after a lower sonority phoneme: dee[pn̩], cho[zn̩]
- Phonetic data is scarce, but suggests true syllabic nasals are relatively constrained:
  - Roach et al. (1992): 10.3% of possible environments in TIMIT (AmEng)
  - Toft (2002): In sentences read by 8 BrEng speakers, [n̩] <30% of realizations post-labial & velar stop, but 85% of realizations post-coronal stop
  - Eddington & Channer (2010): Following [ʔ], female, young Utahns produce more [ən] than non-Utahns, who produce more [n̩]

Aim 1: Use controlled phonetic data with various preceding consonants to determine the distribution of word-final syllabic nasals in American English.

Aim 2: Propose a possible gestural origin for the environments that have substantially higher rates of syllabic nasals.

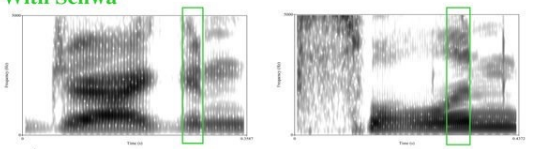
2. Methodology

Lab Study: 25 monolingual speakers of American English (ages 19-32), mostly from NY metro area

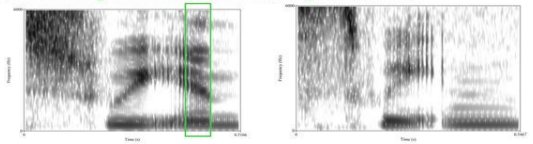
- **Lab Stimuli**: 40 [ən]/[n̩] words, 8 words for each preceding manner type + 10 [əm]/[m̩] words. E.g.,
  - *Stops ([-coronal])*: ripen, sicken, ribbon, wagon
  - *Fricatives*: loosen, risen, deafen, heaven
  - *Laterals*: stolen, fallen, woolen
  - *Glottal stop*: button, beaten, rotten
  - *[ɾ]/[d]*: hidden, widen, broaden
  - *[m]*: chasm, sarcasm, prism, tourism
- **Materials**: 50 words combined into 26 sentences (always in phrase-medial position)
  - *Gail has never eaten at Burger Heaven in Brooklyn.*
- **Procedure**: Recorded reading randomized sentence list.
- **Analysis**: [ən]/[n̩] (N=1250) coded using spectrograms to determine whether or not a vowel is present

Spontaneous speech corpus: 28 of 50 words from Lab Study also occur at least 8-10x in the Fisher CTS corpus (Cieri et al. 2005). These are extracted to compare read and spontaneous speech. (N=260)

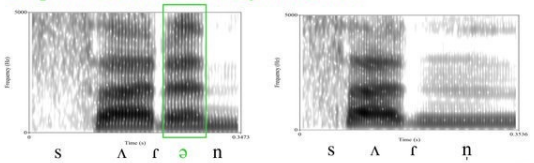
With Schwa



Glottal stop with schwa & with syllabic nasal

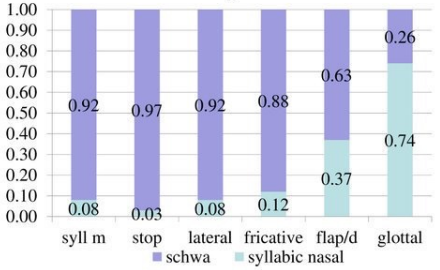


Flap with schwa & with syllabic nasal

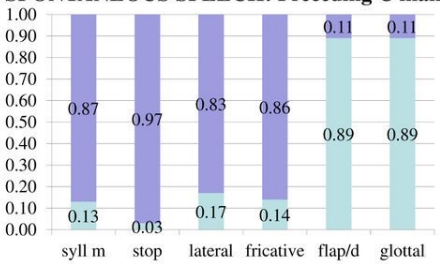


3. Results

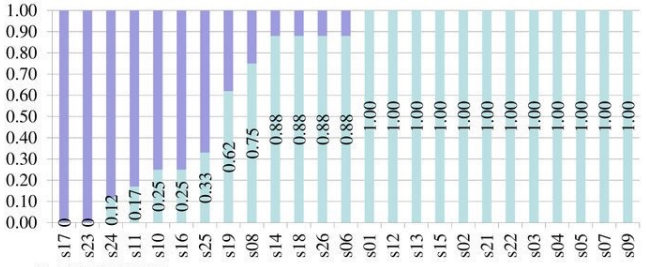
LAB STUDY: Preceding C manner



SPONTANEOUS SPEECH: Preceding C manner



LAB STUDY: Glottal stop detail



LAB STUDY

- [ʔ] & [ɾ/d] have significantly more syllabic nasals than all others
- [ʔ] has significantly more than [ɾ/d]
- For [ʔ], except for 2-3 people, speakers have a mostly categorical pattern (not variability within speakers)
- Lexical frequency doesn't predict [n̩]/[ən] for [ʔ] or [ɾ/d] words

SPONTANEOUS SPEECH

- [ɾ/d] & [ʔ] have significantly more syllabic nasals than all others; no differences between these two

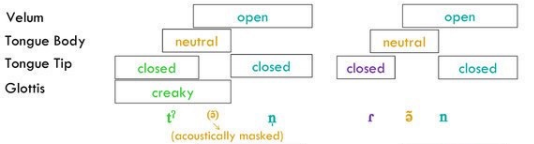
➢ Word-final [n̩] occurs after [ʔ] and [ɾ/d], but rates after [ɾ/d] are style-dependent: higher in spontaneous speech

Thanks to audiences at NYU & Penn and Mark Liberman for the Fisher CTS data.

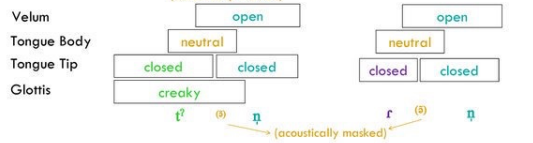
4. Discussion

- Unresolved question: Where does [ʔ] before [n̩] originate from? A hypothesis:
  - Reasonable to hypothesize [n̩] has underlying /ə/. Many examples are bimorphemic: e.g., causative /-ən/ (*deep/deepen, rot/rotten*). But why is [ɾ] not (usually) found here? (*[ɹɑɾən, biɾən])
  - 'Glottally reinforced [t^{ʔ}]' is common in coda position (Kahn 1980, Pierrehumbert 1995, Huffman 2005, Seyfarth & Garellek 2015)
  - [t^{ʔ}] is in the base being affixed & is realized due to paradigmatic pressures (OO-Faith & phonetic realization, e.g. Albright 2009, Lee et al. 2013, Steriade 2000).
  - Prediction: [n̩] may have started in affixed words & spread by analogy to monomorphemes (*button, mitten*)
- Syllabic nasals favored by: preceding stop consonant homorganic with the nasal, glottal stop/glottalization, and increased overlap in spontaneous speech

Reading
Rate: less overlap, but creak masks the vowel



Spontaneous
Rate: more overlap; tongue tip just stays raised before nasal even for [ɾ]



Extending TSL to Account for Interactions of Local and Non-Local Constraints

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Introduction

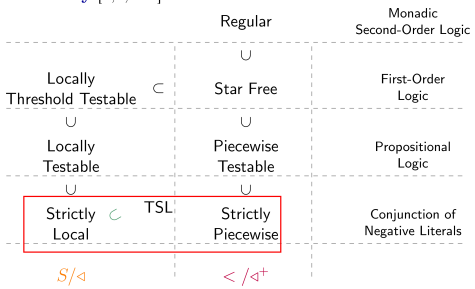
Formal language theory can be used to describe the **complexity of linguistic processes**. Recent research suggests that unbounded dependencies in phonotactics can all be captured by the class of **tier-based strictly local** (TSL) languages [4]. However, there are patterns that cannot be described with a TSL account [6].

In this work I show that:

- these patterns are still subregular
- they fit in **an extension of TSL** obtained by relaxing constraints on the tier-projection mechanism.

Subregular Complexity

Regular languages can be decomposed into a hierarchy of nested classes of decreasing complexity — the **subregular hierarchy** [4,7, i.a.].



The Subregular Hypothesis:

- Phonology is **subregular** [3]
- Local phonotactic dependencies are **strictly local** (SL)

SL Example: Word-final devoicing in German

- $G = \{^*[+\text{voice}]\rtimes\}$

*⋊ r a d ⋊ ok ⋊ r a t ⋊

What about unbounded dependencies?

- Unbounded dependencies are **not** SL
- **Idea**: Select a subset of segments and enforce constraints only over those.

TSL Grammars

Tier-based Strictly Local grammars:

- A projection function E_T:

$$E_T(\sigma) := \begin{cases} \sigma & \text{if } \sigma \in T \\ \epsilon & \text{otherwise} \end{cases}$$

- Strictly k-local constraints over T.

TSL Example: Sibilant harmony in Aari

- $G = \langle T = \{\text{ʃ,ʒ,s,z}\}, S = \{^*\text{ʒs}, ^*\text{ʒz}\ ^*\text{ʃs}, ^*\text{ʃz}, ^*\text{sʃ}, ^*\text{zʃ}, ^*\text{sʒ}, ^*\text{zʒ}\}\rangle$

* ʒ s ok ʒ ʃ

ʒ a: e r s e ʒ a: e r ʃ e

Limits of TSL. Sibilant Harmony in Samala [1]:

1) Unbounded sibilant harmony

a. /k-su-ʃojin/ kʃuʃojin "I darken it"

2) /s/→ [ʃ] when preceding (adjacent) [t, n, l]

b. /s-ni?/ ʃni? "his neck"

3) Sibilant harmony overides palatalization

c. /s-net-us/ snetus "he does it to him"

SH in Samala is not TSL [6]

- $G_1 = \langle T = \{\text{s, ʃ, n, t, l}\}, \text{S} = \{^*\text{sʃ}, ^*\text{ʃs}\ \}\rangle$

ok ʃ ʃ n * s ʃ n

ok k ʃ u ʃ o j i n * k s u ʃ o j i n

- $G_2 = \langle T = \{\text{s, ʃ, n, t, l}\}\ , \text{S} = \{^*\text{sʃ}, ^*\text{ʃs}, ^*\text{sn}, ^*\text{st}, ^*\text{sl}\ \}\rangle$

ok ʃ n * s n

ok ʃ n i ? * s n i ?

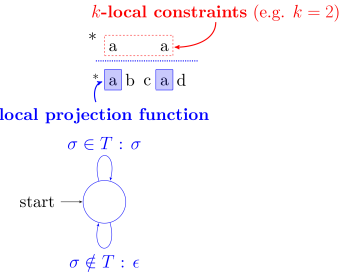
- $G_3 = \langle T = \{\text{s, ʃ, n, t, l}\}\ , \text{S} = \{^*\text{sʃ}, ^*\text{sʃ}, ^*\text{sn}, ^*\text{st}, ^*\text{sl}\ \}\rangle$

* s n ok t s

ok s n e t u s

Structure Sensitive TSL

TSL languages are characterized by:

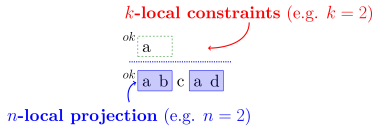


But:

- E_T is blind to essential information in the input string
- We want tier-projection to depend on n-local properties

Idea:

- E_T is an Input Strictly 1-Local function [2]
- We can to push the locality of E_T **higher than 1**



SH in Samala is SS-TSL

- $T = \{\sigma : \sigma \in \{\text{s, ʃ}\} \vee (\sigma \in \{\text{ n, t, l }\} \wedge \text{s} \lhd \sigma)\}$
- $S = \{^*\text{sʃ}, ^*\text{sʃ}, ^*\text{sn}(\neg\text{s}), ^*\text{st}(\neg\text{s}), ^*\text{sl}(\neg\text{s})\}$

ok ʃ ʃ n * s ʃ n

ok k ʃ u ʃ o j i n * k s u ʃ o j i n

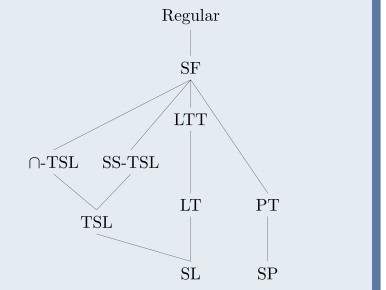
ok ʃ n * s n

ok ʃ n i ? * s n i ?

ok s n s

s n e t u s

The (Extended) Subregular Hierarchy



SS-TSL Languages:

- First order definable with $\lhd \Rightarrow$ Still Subregular
- *Gold Learnable* fixed k, n

SS-TSL: Where Else?

- Culminativity patterns [3]
- Unbounded tone plateauing [5]
- Nasal harmony in Yaka [7]

Conclusion

In This Poster

- Subregular hypothesis: Phonology is SL + SP + TSL
- but there are still patterns that are unaccounted for!
- SS-TSL as a promising extension of TSL.

Future Work

- Further study of the TSL neighborhood
- Learning algorithms, AGL experiments, ...

References

[1] Applegate, R. B. 1972. Ineseno Chumash grammar. Ph.D. thesis, U. of California, Berkeley. **[2]** Chandlee J. 2014. Strictly Local Phonological Processes. Ph.D. thesis, U. of Delaware. **[3]** Heinz, J. 2014. Culminativity times harmony equals unbounded stress. In Word Stress: Theoretical and Typological Issues, Chap 8. **[4]** Heinz, J., Rawal C., & Tanner, H. G. 2011. Tier-based strictly local constraints in phonology. ACL 49th. **[5]** Jardine, A. 2016. Computationally, tone is different. Phonology. **[6]** McMullin, K. 2016. Tier-based locality in long-distance phonotactics: learnability and typology. Ph.D. thesis, U. of British Columbia. **[7]** McNaughton, R., and Seymour P. 1971. Counter-free automata. Cambridge: MIT Press. **[8]** Walker, R. 2000. Yaka nasal harmony: Spreading or segmental correspondence? Annual Meeting of the BLS.

Acknowledgements

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Who is *they*?
Pronoun use across time and social structure

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Acknowledgements:
I acknowledge with respect the lkwungen-speaking peoples on whose traditional territory the University of Victoria stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.

Thank you, Dr. Alexandra D'Arcy (supervisor) and Dr. Sonya Bird (committee member).

Q: Who uses singular *they* (which ages and genders), and is this dependent on the perceived gender of the antecedent?

Introduction

21st century grammars advocate avoidance tactics or combined pronouns (*he or she, he/she*) when referencing singular generic people (e.g., *the/a mechanic*)
(Paterson 2014)

→ Yet, singular *they* dates back to at least the 14th century
(Balhorn 2004; Curzan 2003)

→ Even with proscription in formal grammars since the 18th century, use of singular *they* in writing and speech has not waned
(Bodine 1975; Zuber & Reed 1993)

Additionally, people identify outside of the gender binary (female-male dichotomy) and/or use *they* or other gender-neutral pronouns for themselves because these are more inclusive.

→ Some of LaScotte's (2016) participants recognize *they* as being more inclusive, emphasizing that the general public is becoming aware of this social shift.

→ **Thus, pronouns are topical. Which ones are being used to reference singular generic people, and by whom?**

→ **Gaps in usage studies?**
- Effects of age (apparent time)
- Only female and male participants

Methodology

Survey:
- Online (eSurvey Creator)
- Stimuli: 3 targets (*mechanic*, *secretary*, *student*), 6 fillers
- Demographic questions
- Modelled from LaScotte (2016), Martyna (1978), and Meyers (1990)
- *mechanic* and *secretary* from psychological assessments of gender roles (Deaux & Lewis 1983; Haines et al. 2016)

Demographics:
- 629 participants

"What is your gender?"
- **Non-binary:** X, agender, genderqueer, genderfluid, non-binary, anything, none
- **Male:** m, male, cis man, trans man, transmasculine
- **Female:** f, fem, female, cis woman, trans woman, femaleish

Gender	Year of birth	Participants
non-binary (nb)	1970-2000	58
male (m)	1940-2004	182
female (f)	1940-2004	365
	No response	24
	TOTAL	629

Quantitative coding protocol:
- One token per pronoun type within response, (1), e.g., *he, she, he or she, they, you, one,* or pluralisation
  - (1) I hope **he or she** find what **they're** looking for (f/b.1956)
- If no pronouns, then avoidance, (2), (3)
  - (2) **A decent mechanic** will find only the problem… (m/b.1985)
  - (3) **ø** Come to class on time, be engaged and respect deadlines (f/b.1973)
- Shifted focus (*mechanic*, *secretary*), (4), (5)
  - (4) I hope the oil is topped up (f/b.1972)
  - (5) **You** hope it's not on a Friday (f/b.1995)
- Excluded: non-response, (6)
  - (6) $$$$ (f/b.1986)

MECHANIC

"When a mechanic checks under the hood, _____"

Overall strategies for MECHANIC

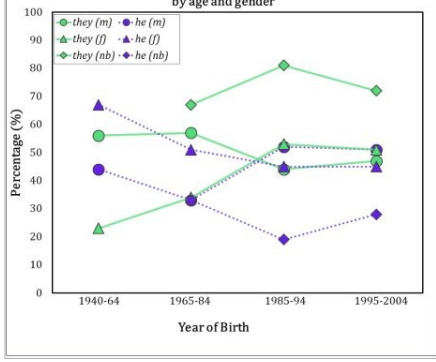
Strategy	N	(%)
3P pronouns	480	79.2%
avoidance	67	11.1%
shifted focus	59	9.7%
TOTAL	606	

3P Pronouns for MECHANIC

Pronoun	N	(%)
they	247	51.5%
he	208	43.3%
he/she	15	3.1%
she	10	2.1%
TOTAL	480	

- *They* is most frequent overall, followed by *he*, indicating an implicit male bias for *mechanic*.
(Masculine nouns generally have a male-image bias, see Silveira 1980)

MECHANIC: Distribution of *he* and singular *they* by age and gender



- **Male**: *They* slightly decreases over apparent time, while *he* increases
- **Female**: *They* increases over apparent time, while *he* decreases
- Minimal differentiation among males and females: *they* and *he* both ~50%
- **Non-binary**: consistently use *they* most frequently

SECRETARY

"When a secretary books a meeting, _____"

Overall strategies for SECRETARY

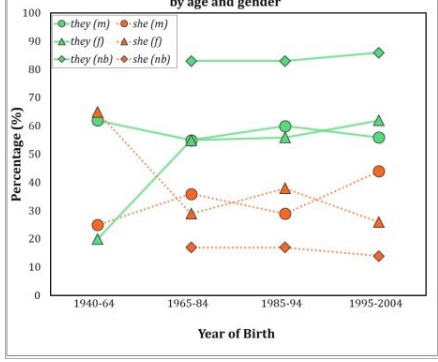
Strategy	N	(%)
3P pronouns	412	67.4%
avoidance	113	18.5%
shifted focus	86	14.1%
TOTAL	611	

3P Pronouns for SECRETARY

Pronoun	N	(%)
they	240	58.3%
she	136	33.0%
he/she	18	4.4%
he	18	4.4%
TOTAL	412	

- *They* is most frequent overall, followed by *she*, indicating an implicit female bias for *secretary*

SECRETARY: Distribution of *she* and singular *they* by age and gender



- **Male**: *They* is relatively stable over time, and is consistently more frequent than *she*
- **Female**: *They* rises sharply c.1965 and then increments slowly upward, while *she* patterns in opposition
- **Non-binary**: consistently use *they* most frequently

STUDENT

"What does it mean to be an ideal student? What does an ideal student need to do? If the student doesn't do this, what are the consequences?

Overall strategies for STUDENT

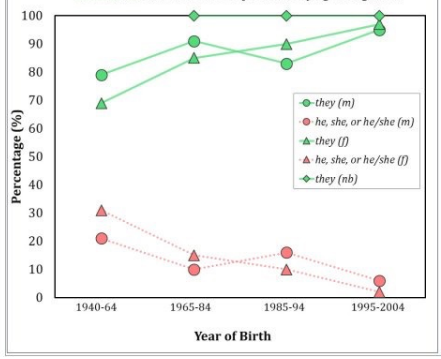
Strategy	N	(%)
3P pronouns	430	63.6%
you	92	13.6%
avoidance	117	17.3%
pluralisation	26	3.8%
one/someone	11	1.6%
TOTAL	676	

3P Pronouns for STUDENT

Pronoun	N	(%)
they	385	89.5%
he/she	30	7.0%
he	8	1.9%
she	7	1.6%
TOTAL	430	

- *They* is most frequent overall, accounting for the vast majority of all 3P reference

STUDENT: Distribution of 3P pronouns by age and gender

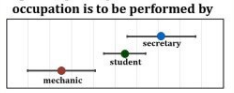


- **Male**: *They* increases over apparent time, while gendered pronouns decrease
- **Female**: *They* increases over apparent time, while gendered pronouns decrease
- **Non-binary:** Categorical use of *they* for definite 3P reference
- Youngest participants use *they* at least 95% of the time

Discussion and Conclusion

Overall, *they* prevails. But:
- *Mechanic* and *secretary* remain gendered:
  mechanic skews masculine, *secretary* skews feminine
  - Singular *they* is usually the most frequent choice, but followed by gendered pronouns
- Males' use of gendered pronouns increases over apparent time (*mechanic* and *secretary)*
- Non-binary's use of *they* predominates across all occupations, leading change
- Among females, *they* gradually increases over time
- For *student*, singular *they* is the most frequent choice

Average overall responses to which gender participants think each occupation is to be performed by



Sliding scale: 0=male, 100=female

Limitations:
- Fewer participants born before 1965
- Fewer males and non-binary compared to females
- Aimed at implicit biases, but people can still monitor their writing

Conclusion:
- Non-binary lead change with singular *they*, across all three occupations, regardless of perceived gender, followed by females
- For gender stereotypes, males are oppositional, increasing use of gendered pronouns over apparent time
- Singular *they* is both increasing across apparent time and longitudinally entrenched, attested for all three occupations at non-negligible rates

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Identifying Participation of Individual Verbs or VerbNet Classes in the Causative Alternation

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SFB 991

The Causative Alternation

- Verbs in the causative alternation have a **causative/inchoative** meaning:
  - (1) You open the door. — *causative: ACTOR = you, THEME = door*
  - (2) The door opens. — *inchoative: ACTOR = it, THEME = door*
- Verbs in the object-drop alternation have no inchoative interpretation:
  - (3) You read the letter. — *transitive: ACTOR = you, THEME = letter*
  - (4) You read. — *intransitive: ACTOR = you, THEME = implied*
- Verb alternations are **interesting** from a computational linguistics point of view: The events should be modeled differently.
- This paper presents 8 approaches to the **automatic identification** of verbs in the causative alternation.
- Existing resources (used here as gold data): **Levin (1993) verb classes, VerbNet classes (Kipper et al., 2000)**

Task Description

- **Predict:** Does a given verb participate in the causative alternation or not?
- **Use:** BNC corpus, Stanford CoreNLP Dependency Parser, word2vec
- **Test conditions:** 1) **all** verbs listed in the gold data, 2) only the 300 most **frequent** verbs, 3) a **balanced** set of 150 verbs from each class
- **Different indicators:**
  - $v' \in C$: What can we observe about other verbs in the same VerbNet class as the current verb?
  - $\sum_{v' \in C} c(v')$: How many instances of verbs in this VerbNet class are attested in the corpus?
  - $c(v_{trans}), c(v_{intrans})$: How often does a verb occur (in)transitively?
  - $\cos(\overrightarrow{objects}, \overrightarrow{intr-subjects})$: Are the possible objects of the verb close to its possible intransitive subjects in vector space?
  - $|avg\_acc(v_{trans}) - avg\_acc(v_{intrans})|$: Does the average acceptability of transitive usages of the verb differ a lot from that of intransitive usages?

Classification: Does this verb participate in the Causative Alternation or not?

$a_1(v \in C) = 1$ iff $\forall v' \in C : c(v'_{trans}) > 0 \wedge c(v'_{intrans}) > 0$

$a_2(v \in C) = \frac{\sum_{v' \in C} \min(c(v'_{trans}), c(v'_{intrans}))}{\sum_{v' \in C} c(v')}$

$a_3(v) = \frac{c(v_{trans})}{c(v_{intrans})}$

$a_4(v) = a_5(v) = \cos(\overrightarrow{tr-subjects}, \overrightarrow{intr-subjects})$

	Causative Alternation vs. Other						*Causative vs. Obj-Drop*		
	Levin			**VerbNet**			**Levin**		
	all	**freq**	**balanced**	**all**	**freq**	**balanced**	**all**	**freq**	**balanced**
Random Baseline	0.51	0.54	0.52	0.53	0.47	0.56	0.48	0.50	0.49
VNType	0.20	0.31	0.32	0.10	0.18	0.17	0.19	0.30	0.30
VNRank	0.67	0.63	0.52	0.60	0.42	0.52	**0.79**	0.67	0.68
VNToken	0.61	0.59	0.50	**0.83**	0.68	0.71	0.61	0.51	0.51
SCFflag	**0.71**	**0.74**	**0.67**	0.59	0.63	0.67	0.64	0.66	0.67
SCFRatio	**0.71**	0.72	0.65	0.68	0.57	0.60	0.68	**0.73**	**0.75**
CentroidDistance	0.62	0.60	0.62	0.64	0.78	**0.79**	0.53	0.55	0.55
CentroidSubjVsObj	0.63	0.63	0.57	0.64	**0.79**	**0.79**	0.59	0.61	0.61
RNN-LM	0.66	0.69	0.59	0.66	0.78	**0.79**	0.58	0.63	0.63

Tab. 1: F1 scores for the classification of verbs that do/don't participate in the causative alternation (left) and verbs that participate in the causative/object-drop alternation (right)

$a_6(v \in C) = \frac{|\{v' \in C : c(v'_{trans}) > 0 \wedge c(v'_{intrans}) > 0\}|}{|C|}$

$a_7(v) = 1$ iff $c(v_{trans}) > 0 \wedge c(v_{intrans}) > 0$

$a_8(v) = \cos(\overrightarrow{objects}, \overrightarrow{intr-subjects})$

$a_9(v) = \frac{1}{|avg\_acc(v_{trans}) - avg\_acc(v_{intrans})|}$

Discussion

- **SCFflag and SCFRatio** outperform the other systems most consistently.
- Verbs in the causative alternation occurred in transitive/intransitive SCFs with very **dissimilar frequencies**. Verbs with more **similar frequencies** were predicted to participate in the object-drop alternation.
- Vector-based systems are **surprisingly bad** at distinguishing the causative alternation from the object-drop alternation. This might be due to overlapping selectional preferences for different role slots.
- **Vector-based** approaches achieve better scores on VerbNet test data: Vectors are good at predicting VerbNet-like clusters.
- **Unattested or infrequent** verbs are classified as "not alternating" by most of our systems. *Is this the best idea?*

Fun Facts!

- **Acceptability scores** (used in RNN-LM) were generally higher for transitive SCFs than intransitive ones, independent of the verb!
  - "John sleeps him" was *more* acceptable than "John sleeps"!
- Verbs with noun or adjective **homographs** were rarely annotated correctly by the dependency parser!
  - Difficult to classify *circle* (V), *drip* (V), *yellow* (V), *awake* (V)!
- Qualitative analysis shows that the parser is likely to incorrectly predict a **transitive structure** for complex sentences!
- Future work: Run systems on **Spanish and/or Russian data**!
- **SOTA** = ??? (*Ask me!*)

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DFG Deutsche Forschungsgemeinschaft

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SCiL Society for Computation in Linguistics

The suffix that makes Persian unique

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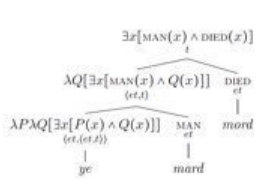
Construction	Form	Example		Translation
Indefinite	*ye*-N	*ye-mard*	*mord*	"A man died"
Specific	*ye*-N-*e*	*ye-mard-e*	*mord*	"A (certain) man died"
Definite	N-*e*	*mard-e*	*mord*	"The man died"

Question
What does *-e* do?

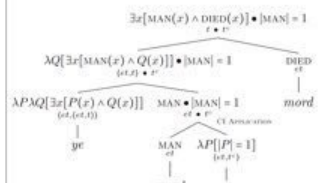
Answer
Uniqueness! It marks that the nominal denotes a singleton set in the utterance context.

ANALYSIS

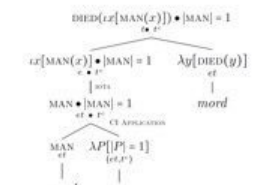
Indefinite



Specific



Definite



DATA

Definite [N-e] vs. Specific [ye-N-e]

ye-N-e can be used informatively and out of the blue. The uniqueness of N-e needs to be common ground.

[Context: Nader and Simin are home. The doorbell rings. Nader peeks out the window and sees a woman; says:]

(1) # *zan-e* *dam-e* *dar-e*
woman(-UM) close-EZ door-be.3SG
"The woman is at the door."

(2) *ye zan-e* *dam-e* *dar-e*
ID woman(-UM) close-EZ door-be.3SG
"A (certain) woman is at the door."

[Context: Nader and Simin are home, waiting for their neighbor (a woman) to visit. The doorbell rings. Nader peeks out the window and sees her. He says:]

(3) *zan-e* *dam-e* *dar-e*
woman(-UM) close-EZ door-be.3SG
"The woman is at the door."

(4) # *ye zan-e* *dam-e* *dar-e*
ID woman(-UM) close-EZ door-be.3SG
"A (certain) woman is at the door." (not the neighbor)

Indefinite [ye-N] vs. Specific [ye-N-e]

ye-N-e can only take the widest scope.

(5) Amir mi-xād bā **ye** **doxtar(-e)** ezdevāj kon-e
Amir IMP-want with ID girl-UM marry do-3.SG
"Amir wants to marry a girl"
- ∃ > WANT
- WANT > ∃

(6) Amir hamishe bā **ye** **doxtar(-e)** davā-sh mi-she
Amir always with ID boy(-UM) quarrel-3SG IMP-become
"Amir always gets into a fight with some girl."
- ∃ > ALWAYS
- ALWAYS > ∃

(7) hame-ye doxtar-ā hame-ye eshtebā-hā-ye **ye** **pesar(-e)** ro tasih kard-an
all-EZ girl-PL all-EZ mistake-PL-EZ ID boy-UM OM correct do-3.PL
"All the girls corrected all the mistakes of a boy."
- ∃ > ∀ > ∀
- ∀ > ∃ > ∀

(8) hame fekr mi-kon-an Amir bā **ye** **doxtar(-e)** ezdevāj kard-e
all thought IMP-do-3.PL Amir with ID girl(-UM) marry do-3.SG
"Everyone thinks Amir has married a girl."
- ∃ > ∀ > B
- ∀ > B > ∃

BACKGROUND

Persian is an Indo-European Language spoken by ~100 M in Iran, Afghanistan, and Tajikistan.

Persian marks indefinites overtly but not definites. This pattern of definiteness marking is present in only 7% of world languages[1].

Persian has three markers that cross the definite-indefinite boundary: *-e*, the indefinite clitic *-i*, and the object marker *rā*.

Data here is from colloquial Tehrani Persian, the main variety associated with Iran's capital, Tehran.

Construction	Form	Uniqueness	Presuppositional
Definite	N-*e*	+	Yes
Indefinite	*ye*-N	–	No
Specific	*ye*-N-*e*	+	No

Acknowledgements & References

An indefinite number of thanks to Cleo Condoravdi, Ivano Caponigro, James Collins, and my helpful informants.

[1] Dryer, M. S. and Haspelmath, M., editors (2013). WALS Online. Max Planck Institute for Evolutionary Anthropology, Leipzig.

A First Look at Miamians' Perceptions of Linguistic Variation in Florida using ArcGIS

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1. ABSTRACT

Scholarship in folk dialectology (Preston 1987, 1989, 1999a) has successfully demonstrated that folk beliefs about language vary wildly according to geographical region. The current study, an analysis of non-linguists' beliefs toward language in Florida, reports on the results of a study using Preston's draw-a- map technique (1989), processed with ArcGIS (Montgomery & Stoeckle 2013). Florida. A map which depicted a minimally-labeled outline of the State of Florida was given to 46 participants. A second map, which depicted the outline of Miami-Dade county, was also given; the present study focuses only on the State of Florida maps. When collected, the maps were scanned and geo-referenced into ArcGIS, a Geographical Information Systems (GIS)-based tool used to process perceptual dialectology data using techniques outlined by Montgomery and Stoeckle (2013).

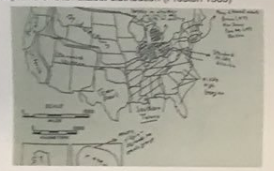
Analysis of the map data shows that participants perceive the state of Florida as a multidimensional language continuum from the state line in the north to the southern tip of the peninsula. These findings suggest that South Florida residents connect language varieties strongly with distinct geographic and perceived sociocultural spaces.

2. BACKGROUND

Preston (1989)

This project works in the tradition of folk linguistics established by Preston (1989), and makes use of the draw-a-map technique, also set forth by Preston (1989)

Hawaiian perceptions of U.S. dialect distribution (Preston 1989)

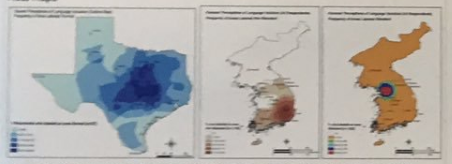


Finding: "a generalized map of a number of perceptions of language differences based on respondent drawings could be realized" (Preston 1989)

Perceptual Dialectology using GIS software (Montgomery & Stoeckle 2013)

Aggregate composite maps from respondent data ("draw-a-map" tasks)

Heat maps



Areas labeled "normal" (Cukor-Avila et al. 2012) "Non-Standard, Standard" (Jeon 2012)

A number of studies have investigated linguistic perceptions and folk beliefs about language diversity in South Florida.

- Alfaraz (2002, 2014) – attitudes toward Spanish language variation
- Carter & Lynch (2013) – matched-guise experiment involving Spanish and English
- Carter & Callesano (2014) – perceptual dialectology experiment involving Spanish dialects
- Carter, Lopez, & Sims (2014) – language attitudes in sociolinguistic interviews

Taken together, these studies show that Miami's diverse languages and language varieties are not perceived in equal terms. Despite interest in language attitudes in the region, no work has specifically examined how language attitudes in South Florida are spatially encoded. We take up that question in this study.

3. METHODOLOGY

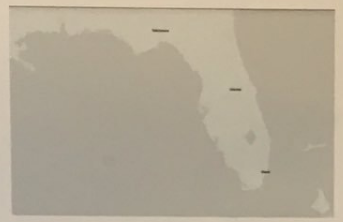
Task – 46 participants were asked to draw boundaries on the Florida map where they believed differences in dialects existed, as well as to indicate what was distinctive about the areas indicated, as described in section 4.

Participants in both experiments were undergraduate students at Florida International University in Miami.

The **visual stimulus** is the transparent map of Florida. The map contains the names of three cities: Tallahassee, Orlando, and Miami, which were used as geographical anchors.

Each map was scanned and geo-referenced into ArcGIS, and each region was digitally traced for the purpose of creating heat maps.

4. DRAW-A-MAP TASK



Participant instructions:

1)Draw boundary lines to indicate each part of Florida where you believe people speak differently. You should only draw as many boundaries as you want to draw. Indicate as much or as little as you want; it doesn't matter if you have been to a place or not, we are still interested in your opinions of language there. The more information you can give, the better.

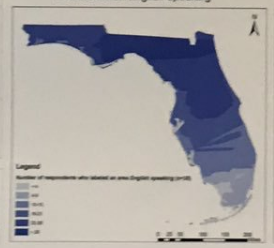
2)Then, **label the area, and if you can, describe how the people speak there**. You should write down anything you think is important about language use in that boundary. The more you tell us about what you think about language in these areas, the better. If you can, give an example of what's unique about the way of talking in the areas you label. (Feel free to label particular words, pronunciations, anything that comes to mind.

5. ANALYSIS AND RESULTS

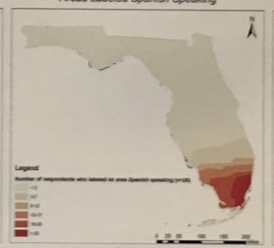
Label (mere mention of word)	1. Panhandle Only (n=24)	2. North Florida (n=56)	3. Central Florida (n=59)	4. North of South Florida (n=25)	5. South Florida (n=61)	6. Southwest Florida (n=1)	7. South Miami-Dade (n=8)	8. Florida Keys (n=1)
Southern	5	11	4	1	0	0	0	1
English	8	19	17	9	6	0	4	0
American	4	8	10	6	2	0	2	0
Spanish	1	5	14	3	27	0	2	0
Spanglish	0	0	0	0	7	0	0	0
"Country"	1	3	0	0	0	0	0	0
Latin(o)	0	0	2	0	2	1	0	0
Hispanic	1	1	4	3	5	0	0	0
Cuba(n)	0	0	1	0	5	0	0	0
African American/Ebonics	0	0	1	0	1	0	0	0
White	3	4	3	0	0	0	0	0

5.1 PERCEIVED DISTRIBUTION OF ENGLISH AND SPANISH

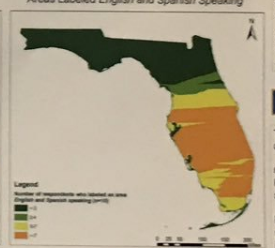
Areas Labeled *English Speaking*



Areas Labeled *Spanish Speaking*



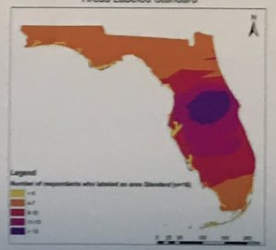
Areas Labeled *English and Spanish Speaking*



5.2 AREAS LABELED STANDARD

Keywords for 'standard':
- Proper
- American
- Normal
- Neutral
- Midwestern
- 'high class'
- Grammatically correct

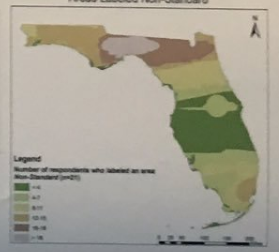
Areas Labeled *Standard*



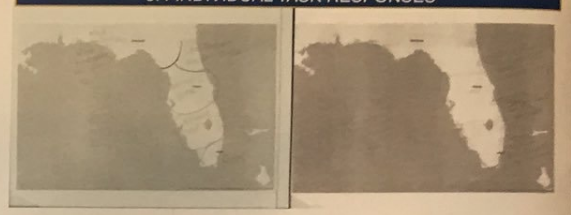
5.3 AREAS LABELED NON-STANDARD

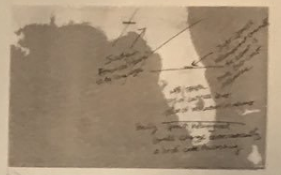
Keywords for 'non-standard':
- Country
- Southern
- Redneck
- Hick
- Twang
- Slang
- Dixie
- Drawl
- Rural

Areas Labeled *Non-Standard*



5.4 INDIVIDUAL TASK RESPONSES





6. OTHER FINDINGS

Miamians tend to interpret the task prompt as a question about where English and Spanish are spoken.

Aggregate responses in GIS maps show Miamians conceive of Spanish and English in three sub-regions: South Florida (Spanish speaking), Central to North Florida (English speaking) and South Florida to Central Florida (bilingual).

Participants also perceived three distinct regions where the quality of language differed. Participants indicated that Standard English was spoken in Central Florida and nonstandard English in the south and north of the state.

Miamians do not make laudatory comments about their home region – the indication of the absence of English along with non-standard language keywords suggests negative language attitudes towards speakers the South Florida area among Miami-born Latin@s.

7. CONCLUSIONS

The question of where Spanish and where English are spoken predominates, even though we did not ask this question directly.

Central Florida is often figured as a transition zone into a "pure", "more American" and "more white " Northern Florida, which is characterized in terms of the typical stereotypes: redneck, southern drawl, slang, and so on.

Miamians were most descriptive of their own part of the state, namely South Florida. And although many of their descriptions were superficially value neutral, we do note the wholesale absence of laudatory terms for language in South Florida. While Central Florida consistently was labeled as "proper," Miami's language was never regarded unambiguously positive.

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