

grammatical variation: themselves and themselves

Byron Ahn, Princeton University

Kirby Conrod, Swarthmore College

he/him  @ahnaphor

they/them  @kirbyconrod

“Singular They”

Singular they with different antecedents is variably acceptable

(Bjorkman 2017, Konnelly & Cowper 2020, Conrod 2019, Camilliere et al. 2021)

❖ Singular *they* with antecedents of variable specificity:

- | | | |
|---|--------------------|---------------------------|
| (1) <u>Every professor</u> praises <u>their</u> advisees daily | <i>quantified</i> | <i>more specific</i>
↓ |
| (2) <u>The ideal advisor</u> emails <u>their</u> advisees regularly | <i>generic</i> | |
| (3) <u>My committee chair</u> signs <u>their</u> emails with a :) | <i>definite</i> | |
| (4) <u>Richard</u> submits <u>their</u> manuscripts early | <i>proper name</i> | |

nb. “singular they” = has a [sg] antecedent in the syntax

Reflexive Forms of Singular They

❖ Reflexive form of singular *they* can variably appear as *themselves* or *themselves*:

(5) Every professor assesses themselves on their teaching

(6) Every professor assesses themselves on their teaching

...variably according to what?

Questions and Hypotheses

RQ1: How does **antecedent type** affect the ratings of *themselves/ves*?

H1a: *themselves* > *themselves* with more specific antecedents (influenced by Ackerman et al. 2018)

H1b: *themselves* > *themselves* with less specific antecedents

RQ2: What **speaker variables** (*macrosocial categories; ideological beliefs*) affect ratings of *themselves/ves*?

H2a: *themselves* ↗ with {nonbinary, younger, less prescriptive, less gender binarist}

H2b: proper names antecedents (for either) ↗ with those folks (influenced by Conrod 2019)

RQ3: Are there clear or coherent '**dialect groups**' that align with how people rate *themselves/ves* with different antecedents?

H3: speakers will divide into 3 dialect groups: conservative, intermediate, and innovative

(influenced by Konnelly & Cowper 2020's work on singular they)

Preview: Theoretical consequences

What can we conclude about English grammar from this data?

☞ There is variation in how speakers accept themself/themselves

◆ **Variation itself will be informative!**

☞ But how they vary is constrained by phi-matching mechanisms

◆ **The mechanisms themselves vary, across dialect groups**

***Phi-features of antecedents are not deterministic for
phi-features in reflexive anaphors***

Background

Bkgd: variation in acceptability of singular *they*

Analyses of **variation with singular *they***:

Bjorkman 2017	2 grammars	Morphosyntactic analysis acceptability \sim antecedent's definiteness/specificity
Konnelly and Cowper 2020	3 grammars	Morphosyntactic analysis acceptability \sim antecedent's specificity/gender features
Conrod 2019	3 grammars	Morphosyntactic analysis acceptability \sim antecedent's specificity/gender features
Camilliere et al. 2021	3 grammars	Experiment (<i>k-means clustering, proper name antecedents</i>) acceptability ratings cluster \sim grammar

Bkgd: morphosyntax of English number

Some English Pronouns

me [π:1, #:SG]

us [π:1]

you [π:2]

her [#:SG, g:FEM]

them []

❖ Number phi-features

- ☞ Pronouns like *my* or *her* are [#:SG], but pronouns like *they* and *our* **lack a # feature**

(cf. Bjorkman 2017, Konnelly & Cowper 2020, Conrod 2019)

- ☞ **Interpretation** and (absence of) SG:

- ◆ Lacking a # feature can be consistent with referring to a single individual *(cf. Wiltschko 2008)*

❖ *A null hypothesis*

- ☞ *Constant across dialects: phi-feature specifications for pronouns **and** how they are interpreted*

Bkgd: morphosyntax & -self reflexives

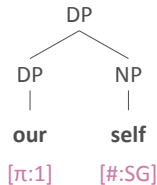
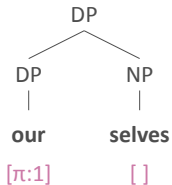
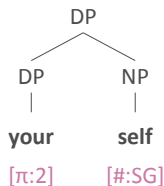
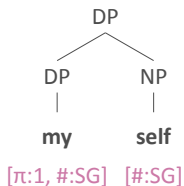
- ❖ There are **two nominals** inside the -self reflexive

(see Postal 1966, Helke 1973, Ahn & Kalin 2018)

- ❖ Each nominal has its own **independent phi-features**

☞ Note the distribution of SG

☞ [SG] self can be used with plural pronouns (*i.e.* those without a number feature) like *your, our, and ... them*



Bkgd: phi-matching

❖ 3 nominals: antecedent, pronoun, -self — which need to match in phi-features?

☞ Ahn 2019: there are many cases of pronoun-antecedent mismatches

(7) If I were you, I would get yourself a good lawyer

❖ What about the other two nominal pairs?

(8) should **we** be bracing **our self** for that
 [$\pi:1$] [$\pi:1$] [$\#:SG$]

(from *Showbiz Tonight*; COCA)

❖ And what do we find in speaker judgments for *themselves*/*themselves*?

Methods

Pilot Study

Two-part pilot task

- ☞ **Online survey** conducted using Qualtrics
- ☞ **Large-scale** (n=1,127) reach, via social media and Prolific

Demographics and ideology survey

- ☞ **Demographics:** Age, gender, location, languages
- ☞ **Prescriptivism scale:** how prescriptivist are you? (8 questions)
- ☞ **Binarist scale:** how much do you believe there are exactly 2 genders? (3 questions)

Ratings survey

Pilot Task: Ratings Survey

❖ Design:

14 conditions 2 pronoun types (*themselves* or *themselves*)
× 7 antecedent types:

Quantified indefinites	Quantified universals	Generic definites	Distal definites	Specific indefinites	Proximal definites	Proper names
<i>Anyone who wants a good grade...</i>	<i>Every person on this planet...</i>	<i>The ideal candidate for this job...</i>	<i>The driver of that car over there...</i>	<i>An employee at the movie theater...</i>	<i>The person I talked to yesterday...</i>	<i>Alex, who is quite short, ...</i>

× 2 sentences per condition = **28 total sentences rated**

❖ Question: “How natural or unnatural does this sentence sound?”

☞ **Likert scale of 1 (*very unnatural*) to 5 (*very natural*)**

Results

Preview of Results

❖ Demographics:

- ☞ Age, gender, and ideology scales had an impact on ratings

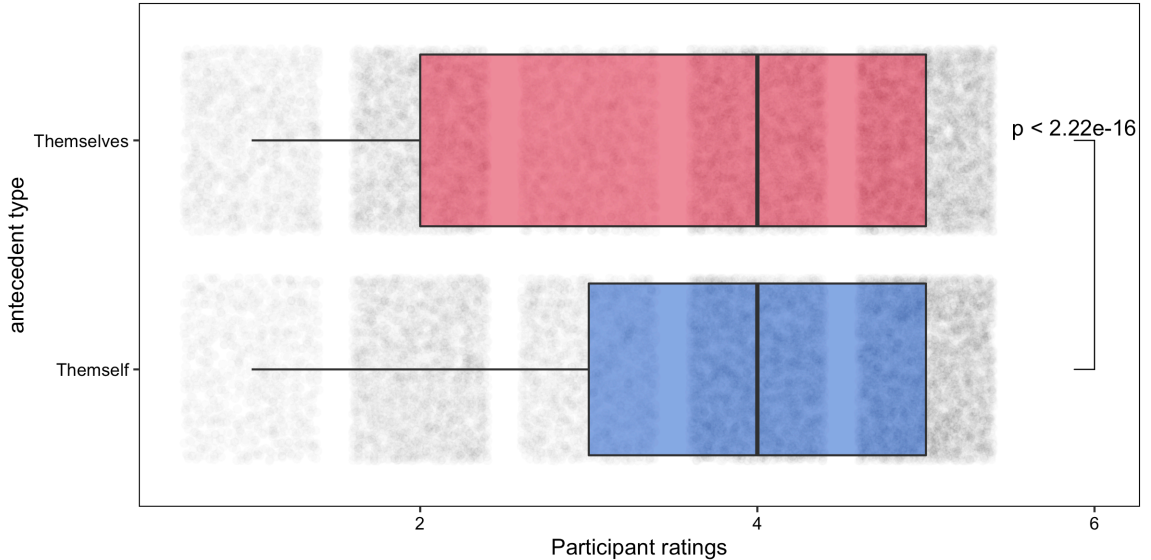
❖ Antecedents:

- ☞ Impacted ratings, but not readily apparent if *themselves* is collapsed
- ☞ Effects of antecedent specificity on ratings not gradient — proper names stood out

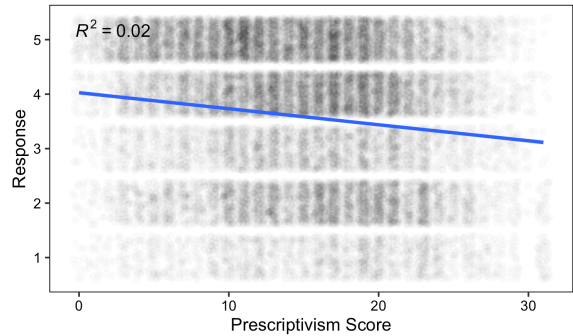
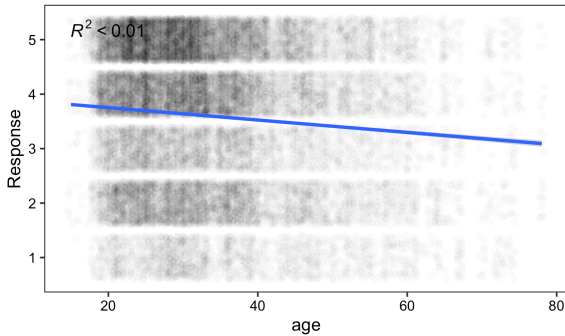
❖ K-groups:

- ☞ 3 clusters of participants (based on ratings) were found; interactions with demographic and grammatical variables

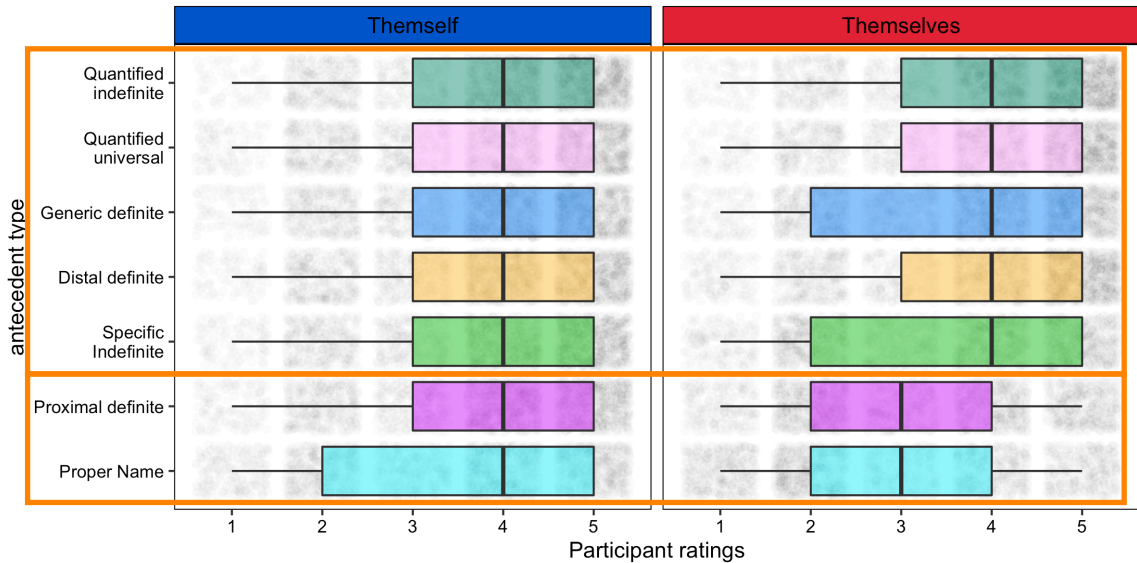
Results: starting point



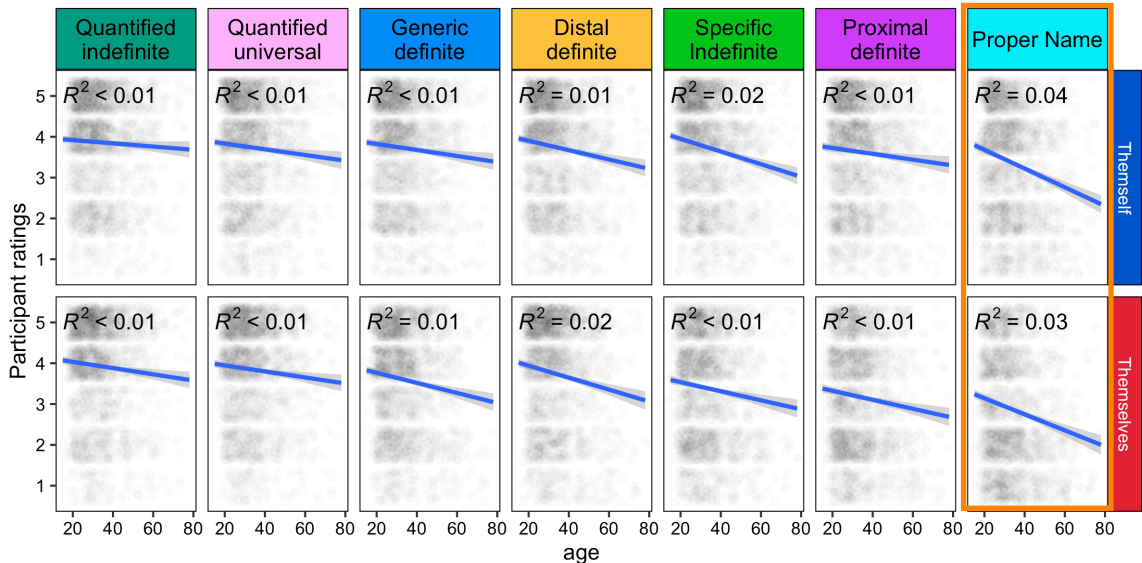
Results: effect of age and prescriptivism



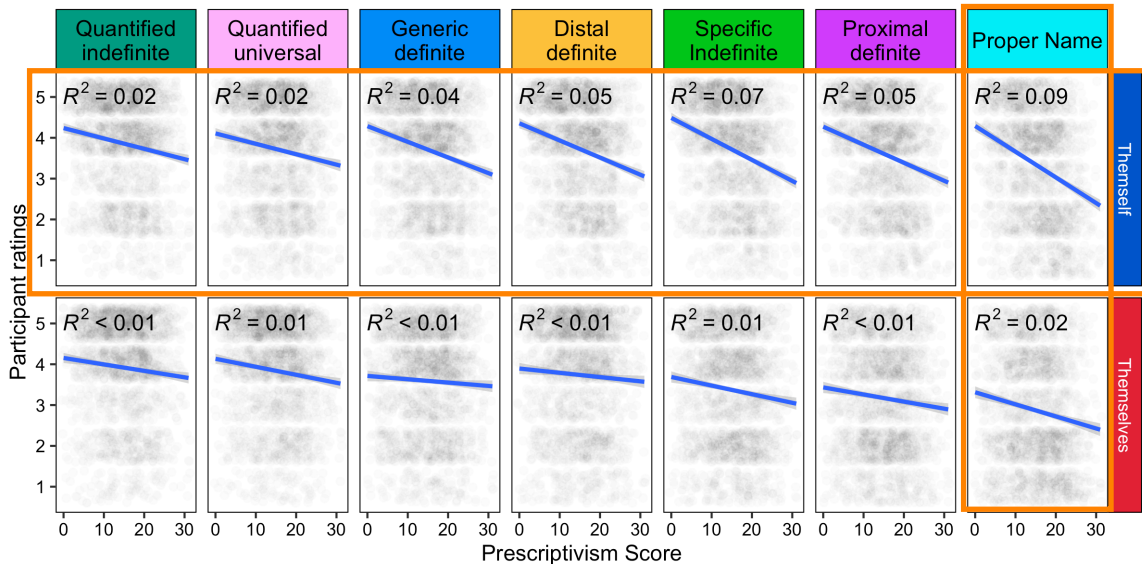
Results: effect of antecedent type × -self / -selves



Results: effect of age and prescriptivism



Results: effect of age and prescriptivism



Are there dialects?

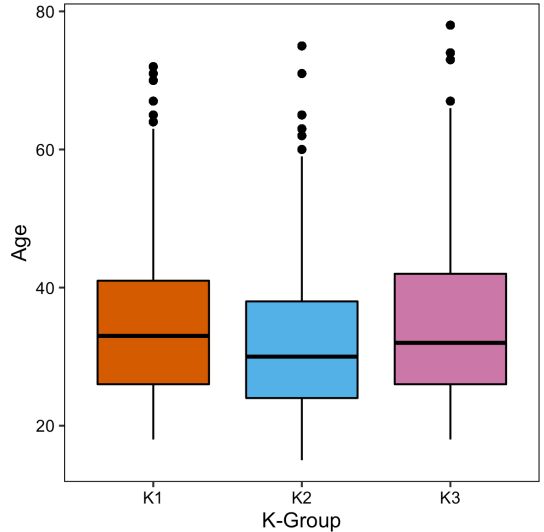
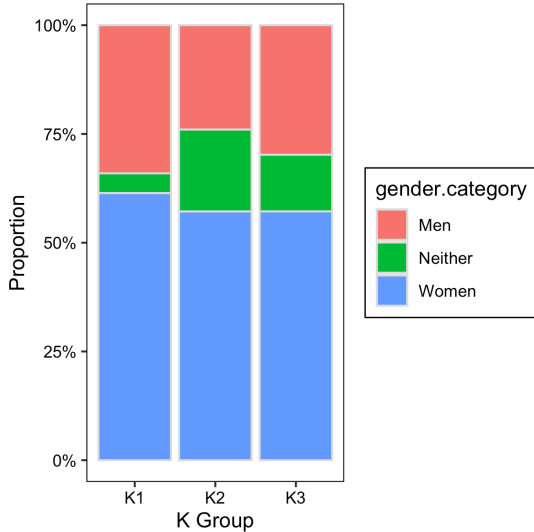
“K-groups”

- ☞ Clusters of participants that emerge based on a Machine Learning algorithm

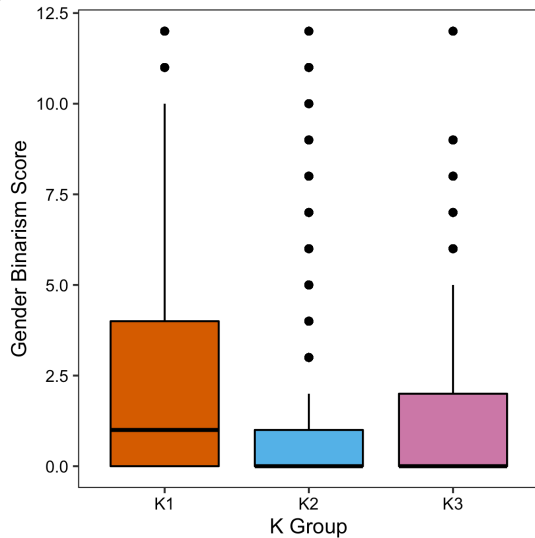
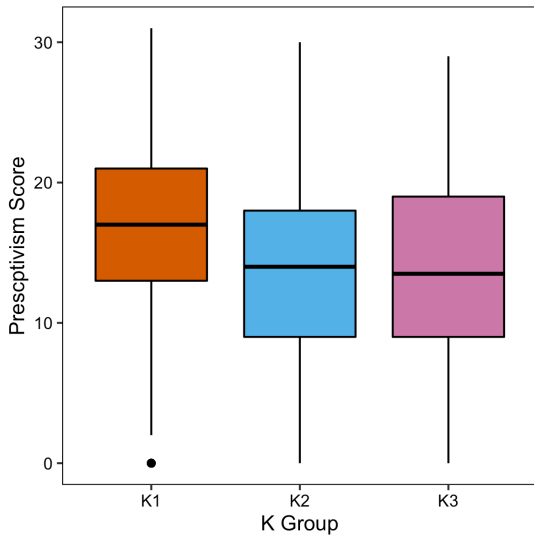
Basics of process:

- ☞ **Input:** numerical ratings of sentences, grouped by participant
- ☞ **Algorithm:** unsupervised classification based on numerical means
- ☞ **Output:** grouped participants

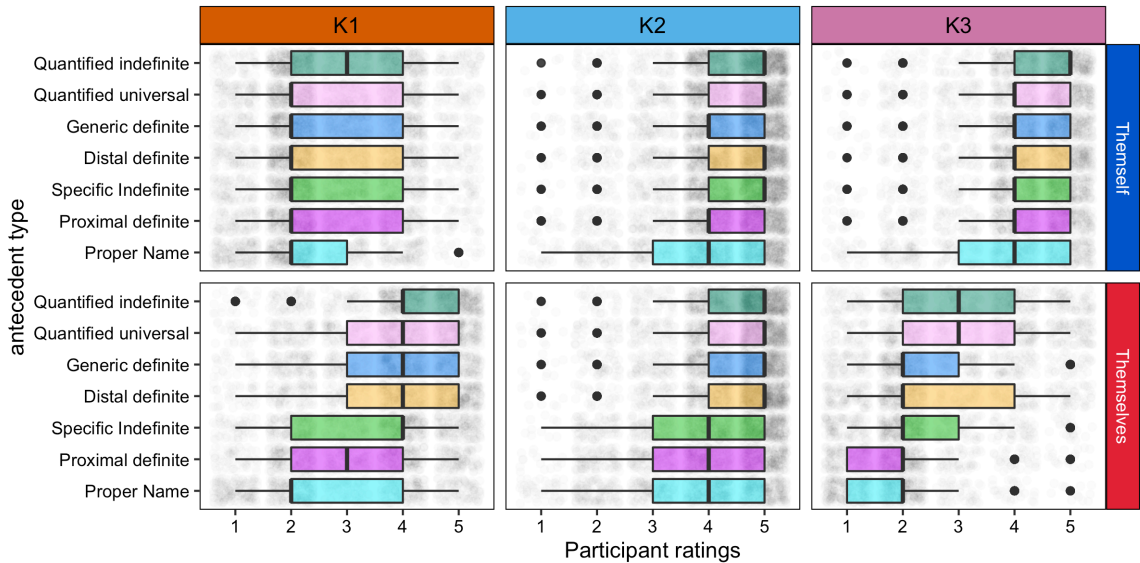
K-Groups... Who Are They?



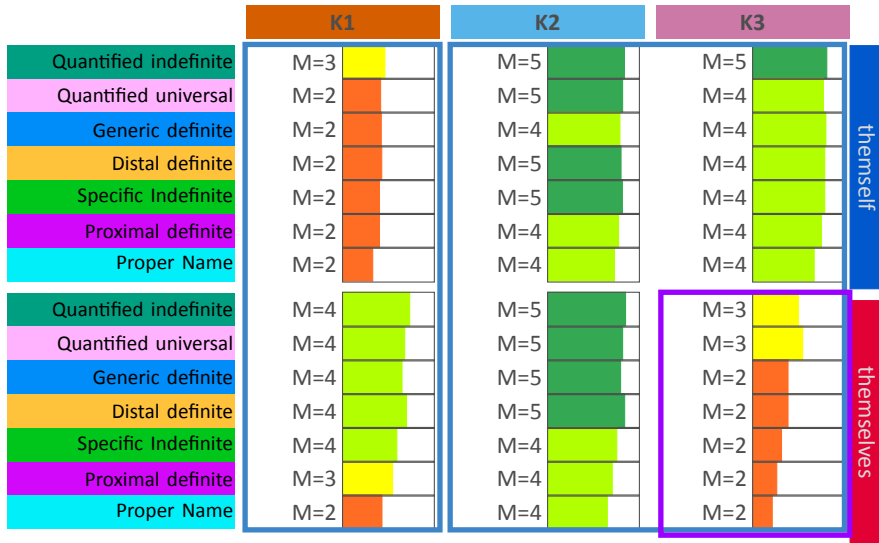
K-Groups... Who Are They?



Results by K-Groups: Grammatical Effects



Results by K-Groups: Grammatical Effects



We're doing a follow-up!

This pilot task is **exploratory** and calls for more robust and methodologically sound experimental techniques

In Progress: Repeated design, with some changes

- ☞ Online survey using **PC Ibex** → open-source repository of materials
- ☞ Acceptability judgments using **continuous sliders** → sharper statistical analyses
- ☞ **Fillers and controls** → more confident in what's (un)acceptable
- ☞ **Latin square design** → everyone sees every condition in a balanced way

Results: PENDING

Discussion

Return to Questions

RQ1: How does **antecedent type** affect the ratings of *themselves*/*ves*?

H1a: *themselves* > *themselves* with more specific antecedents (influenced by Ackerman et al. 2018)

H1b: *themselves* > *themselves* with less specific antecedents

- As presupposed, acceptability of *themselves* vs *themselves* depends on antecedent type
 - ◇ Without interaction with antecedents, *themselves* vs. *themselves* were very similar
 - ◇ Antecedents differ syntactically (*functional structure*) and pragmatically (*specificity*)
- Which is preferred when depends on dialect
 - ◇ H1a only true for K3
 - ◇ H1b only true for K1

Return to Questions

RQ2: What **speaker variables** (*macrosocial categories; ideological beliefs*) affect ratings of *themselves*?

H2a: *themselves* ↗ with {nonbinary, younger, less prescriptive, less gender binarist}

H2b: proper names antecedents (for either) ↗ with those folks (influenced by Conrod 2019)

- **Both confirmed**: age, prescriptivism, gender binarism, and gender all had significant effects on ratings (*in the direction predicted!*)
 - ◇ (Note that the social variables with the biggest effect on k-group are also the social variables that affected ratings [as in H2a,b])

Return to Questions

RQ3: Are there clear or coherent **'dialect groups'** that align with how people rate *themselves* with different antecedents?

H3: speakers will divide into 3 dialect groups: conservative, intermediate, and innovative

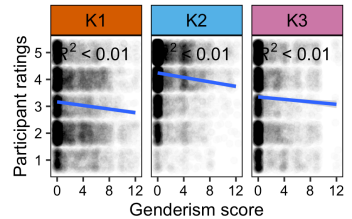
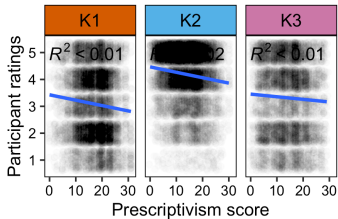
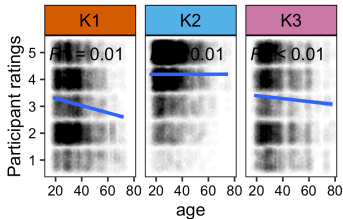
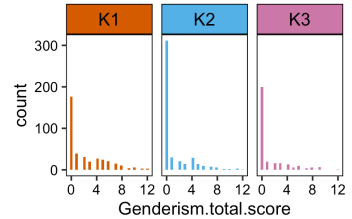
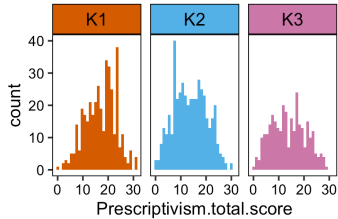
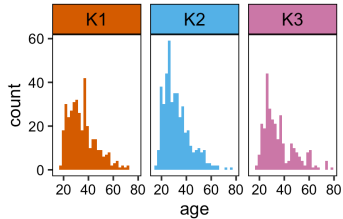
(influenced by Konnelly & Cowper 2020's work on singular they)

- We did find 3 groups — but along different dimensions

K1 Conservative	Themselves \ll Themselfs	<i>(but proper name antecedents generally bad)</i>
K2 Innovative (A)	Themselves \approx Themselfs	<i>(proper name antecedents had highest variability)</i>
K3 Innovative (B)	Themselves \gg Themselfs	<i>(themselfs is best with quantificational antecedents)</i>

Bigger Discussion: Grammar and Demographics

K-group membership is **independent** of demographic variables



Bigger Discussion: Grammar and Demographics

- ❖ There are different grammars of English, varying on how to deal with [sg]-antecedent genderless 3rd person reflexives

	K1	K2	K3	
Quantified indefinite	M=3	M=5	M=5	themselves
Quantified universal	M=2	M=5	M=4	
Generic definite	M=2	M=4	M=4	
Distal definite	M=2	M=5	M=4	
Specific Indefinite	M=2	M=5	M=4	
Proximal definite	M=2	M=4	M=4	
Proper Name	M=2	M=4	M=4	
Quantified indefinite	M=4	M=5	M=3	themselves
Quantified universal	M=4	M=5	M=3	
Generic definite	M=4	M=5	M=2	
Distal definite	M=4	M=5	M=2	
Specific Indefinite	M=4	M=4	M=2	
Proximal definite	M=3	M=4	M=2	
Proper Name	M=2	M=4	M=2	

Bigger Discussion: Grammar and Demographics

- ❖ There are different grammars of English, varying on how to deal with [sg]-antecedent genderless 3rd person reflexives
 - Expected for language change in progress where **input can underdetermine plausible grammatical systems** in learner
 - ◇ *(see Conrod 2019's findings about change in progress for singular they)*
 - Analysis: **Differing in reflexive phi-feature matching** (microparameter settings / constraints formalizations)
 - ◇ *(see Ahn 2019's findings about other cases of reflexive phi-mismatches)*

Points of Grammatical Variation

2 parameters: one on they and one on -self

	Can I use a pronoun w/ no [gender] (they) with a definite specific antecedent?	When can I use -self wrt the antecedent/pronoun?
K1	definite specific antecedents require a gendered pronoun	-self requires [SG] on the pronoun
K2	—N/A: no requirements—	—N/A: no requirements—
K3	—N/A: no requirements—	[SG] antecedent requires [SG] on -self

PREDICTION: K1 might actually contain two groups – a group who can tolerate *ourselves* (a pronoun lacking [sg] + *-self* is okay), and another group who cannot. Why? Because K1 is currently defined only by tolerance of singular *they*, not *-self/ves*

Takeaway Messages / Big Questions

Takeaway Messages

Methodological takeaway

- ☞ With sufficient ratings + sociolinguistic data, **K-means clustering can help disentangle** what variation is due to...
 - linguistic (grammatical) influences,
 - social influences,
 - or interactions between them

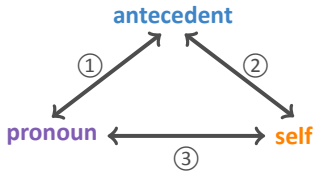
Takeaway Messages

Grammatical takeaways

- ☞ English **reflexive phi-matching is pretty complex** (and in some ways variant across dialects!)
 - Phi-matching between reflexive pronoun and antecedent
 - *Can a pronoun have fewer features than its antecedent? Sometimes!*
 - Phi-matching between pronoun and -self inside self-reflexives
 - *Can the -self have more features than the pronoun it's attached to? Sometimes!*

Big Question: Feature Matching in Binding

- ❖ The generalizations we've found for *self/selves* suggests:



- ☞ [SG] *-self* may need to match the antecedent ((2), K3) or the pronoun ((3), K1)
 - ☞ [] *they* may require a [SG] antecedent to be indefinite/nonspecific ((1), K1)
- ❖ **BIG QUESTION:** What structures and mechanisms predict these different patterns?

Other Future Work

- ☞ Analyze new experimental results
 - With different analytical priors (now that we've established loci of variation)?
- ☞ Other methodologies in this domain:
 - Real-time methodology (e.g. maze tasks)
 - EEG / neurolinguistic measures with *self/selves*
 - Picking apart active acceptability (“I would say this”) and passive acceptability (“I would expect others to say this”)
- ☞ Other reflexive anaphors (e.g. *themselves*, *themselves*, &c)

Thank you!

- Ackerman, Lauren, Nick Riches & Joel Wallenberg. 2018. Coreference dependency formation is modulated by experience with variation in human gender. Presented at the 2018 Annual LSA Meeting.
- Ahn, Byron. 2019. Features, identity, and 'yourself'. In Maggie Baird & Jonathan Pesetsky (eds.), *NELS 49: Proceedings of the 49th annual meeting of the North East Linguistics Society*, vol. 1, 15–24.
- Ahn, Byron & Laura Kalin. 2018. What's in a (English) reflexive? In *NELS 48: Proceedings of the 48th annual meeting of the North East Linguistics Society*, vol. 1, 1–13.
- Bjorkman, Bronwyn. 2017. Singular *they* and the syntactic representation of gender in English. *Glossa* 2(1). 80. doi:10.5334/gjgl.374.
- Camilliere, Sadie, Amanda Izes, Olivia Leventhal & Daniel Grodner. 2021. *They* is changing: Pragmatic and grammatical factors that license singular *they*. *Proceedings of the Annual Meeting of the Cognitive Science Society* 43.
- Conrod, Kirby. 2019. *Pronouns raising and emerging*: University of Washington dissertation.
- Helke, Michael. 1973. On reflexives in English. *Linguistics* 11(106). 5–23. doi:10.1515/ling.1973.11.106.5.
- Konnolly, Lex & Elizabeth Cowper. 2020. Gender diversity and morphosyntax: An account of singular *they*. *Glossa: a journal of general linguistics* 5(1). 40. doi:10.5334/gjgl.1000.

- Postal, Paul M. 1966. On so-called 'pronouns' in English. In Francis P. Dinneen (ed.), *Report of the seventeenth annual round table meeting on linguistics and language studies*, 177–206. Georgetown University Press.
- Wiltschko, Martina. 2008. The syntax of non-inflectional plural marking. *Natural Language & Linguistic Theory* 26(3). 639–694.

“ourself” (COCA results; n=344)

Corpus of Contemporary American English										
SEARCH	FREQUENCY	CONTEXT	ACCOUNT							
1	2019 TV	Gentleman Jack	🔍 🔍 🔍	Q	and that is the beginning and the end. And if we continue to present ourself unashamedly in that manner, then the whole thing -- finally -- will reflect b.					
2	2017 TV	Chicago Justice	🔍 🔍 🔍	Q	? I haven't checked his pockets yet. Ooh. Hmm. We braced ourself for this day When Trevor was deployed overseas. But we never thought that...					
3	2017 TV	Shots Fired	🔍 🔍 🔍	Q	greatest of these is what? Love. How? We love our neighbor as ourself . This mother loved her child no less than anybody else. Family, let					
4	2012 WEB	...erationbeautiful.com	🔍 🔍 🔍	Q	, delicate face, gorgeous hair, personality, tec. We have to love ourself if we don't nobody will. # Hi I'm almost 14. I					
5	2012 WEB	amazon.com	🔍 🔍 🔍	Q	How we are supposed to act--for the medical professionals, for our family, for ourself . # She discusses the importance of keeping a journal if we have a					
6	2012 WEB	realitysandwich.com	🔍 🔍 🔍	Q	, the Ego is a gift of the Universe and I believe an aspect of ourself which requires balance... neutrality... to deny, ignore or attempting to annihilate cau:					
7	2012 WEB	aviewfromthecave.com	🔍 🔍 🔍	Q	the scrutiny and comparisons that come with it. Another thing we need to remind ourself is that Kagame is not perfect, and that his faults can be critici					
8	2012 WEB	glennbeck.com	🔍 🔍 🔍	Q	, if you invert that fiscal cliff or the cliff that we have made for ourself on almost every front, the educational cliff, the societal cliff, not just					
9	2012 WEB	chrisbrogan.com	🔍 🔍 🔍	Q	n't know what we are searching for; this uneasy feeling of having to prove ourself . But what is the real cause for this? Many of us believe it					
10	2012 WEB	metrolyrics.com	🔍 🔍 🔍	Q	start a problem unless you got ta I'm sayin we suppose to be enjoyin ourself nigga Cause entrepreneur and gwap connesuirs Employin ourself niggas E					
11	2012 WEB	metrolyrics.com	🔍 🔍 🔍	Q	'm sayin we suppose to be enjoyin ourself nigga Cause entrepreneur and gwap connesuirs Employin ourself niggas Exploitin my wealth with the compa					
12	2012 WEB	lessonsoftheday.com	🔍 🔍 🔍	Q	the needy, the orphans, the mujahideen... or did you squander it on ourself alone? # 5. Our knowledge - how we acted upon it. How					
13	2012 WEB	...ologeticalliance.com	🔍 🔍 🔍	Q	a world of either irrationality or insult: either way, it is to disrespect ourself and our fellows. # The Underlying Reasons For Making the Statement # In d					
14	2012 WEB	lyricsdepot.com	🔍 🔍 🔍	Q	the absence of light and Silence - the absence of sound. When we allow ourself to become familiar with these and other absences we can by meditatin					
15	2012 WEB	kateharding.net	🔍 🔍 🔍	Q	's what needs to happen for all of us. We need to keep giving ourself the positive message until finally we snap, we break, we open the curtains					

“themselves” (COCA results; n=397)



Corpus of Contemporary American English



SEARCH

FREQUENCY

CONTEXT

ACCOUNT

1	2012	BLOG	...documentaryfilms.com	🔍	🔍	🔍	the tojos who bombed america, and ill respect the nazi ww2 heroes who defended themselves from the british assassination attempts on their leader, and
2	2012	BLOG	...documentaryfilms.com	🔍	🔍	🔍	on their leader, and ill respect any ww2 serviceman from any country who defended themselves from attacks (Germany, Russia, America, France, Namibia
3	2012	BLOG	freethoughtblogs.com	🔍	🔍	🔍	starters, Skepchick! = Rebecca Watson. Second, someone selling erotic photos of themselves doesn't give people permission to treat them in a sexual mar
4	2012	BLOGschool-survival.net	🔍	🔍	🔍	just be a dream. # and who " I " am. each individual define themselves themselves as I or me.but who is the real I, you think you are
5	2012	BLOGschool-survival.net	🔍	🔍	🔍	be a dream. # and who " I " am. each individual define themselves themselves as I or me.but who is the real I, you think you are "
6	2012	BLOG	pjmedia.com	🔍	🔍	🔍	support... only for something of THAT nature will you find a Liberal, by themselves, in places like Gettysburg. # Its the same for Washington. They'll
7	2012	BLOG	thekitchencabinet.us	🔍	🔍	🔍	the video. I have seen it and it is ridiculous. even the terrorists themselves wouldn't take that seriously. Not to mention that the guy that made it
8	2012	BLOG	...discovermagazine.com	🔍	🔍	🔍	: it would actually be pretty cool to see this planetary/pyramid alignment. Someone putting themselves at just the right place to the northwest at just the r
9	2012	BLOG	...lashconsignments.com	🔍	🔍	🔍	Away within the Early Stages of Dating # Perhaps you have pondered why men distance themselves within the early stages of dating? Things seem to start
10	2012	BLOG	...lashconsignments.com	🔍	🔍	🔍	games and wish to find out once and for all the reason why men distance themselves, you' ll need to watch this particular free video on the reason why
11	2012	BLOG	...ckcenter.nbcnews.com	🔍	🔍	🔍	they understood and honored the fundamental LDS belief that each has to find out for themselves. A common saying among us is that no one can live on
12	2012	BLOG	...obandothertings.com	🔍	🔍	🔍	what the child can do/say.. all under the umbrella of letting them " express themselves " while the parent stuffs her truth no matter how natural and heal
13	2012	BLOG	freethoughtblogs.com	🔍	🔍	🔍	person who wrote what you're reading or made the video you're watching fancies themselves a rebel hero simply for being an atheist and is subsisting on
14	2012	BLOG	...dotorg.wordpress.com	🔍	🔍	🔍	I said, some idiots made those contacts on behalf of FTB. Some of themselves (you don't know it's not) or someone who support them.
15	2012	BLOG	dlisted.com	🔍	🔍	🔍	cause someone to see and hear things which aren't there, try to kill themselves and/or become immobilized with fear to the point of not leaving their hou

Structure of Reflexive Anaphors

- ❖ The structure argued for in Ahn & Kalin 2018:

