

# Are BEG and BAG-raising distinct?

## Regional patterns in prevelar raising in North American English

---

Joey Stanley

University of Georgia  
joeystan@uga.edu      @joey\_stan

joeystanley.com

---

American Dialect Society Annual Meeting  
January 4, 2019  
New York City, New York

# PREVELAR RAISING

---

Conditioned raising of TRAP and DRESS before /g/.

BAG (~84 lexemes\*)

*flag, magnet, rag, flag, coagulate, antagonist, snag, tag, fragment, jagged, lag, shaggy, brag, scraggy, wag, stagnant, nag, gag, wagon, drag, dragon, agony, sag, zigzag, aggregate, scallywag, magnificent, haggie, octagonal, straggle, pragmatic, haggard, Pythagorean, Baghdad, aggravate...*

BEG (~60 lexemes\*)

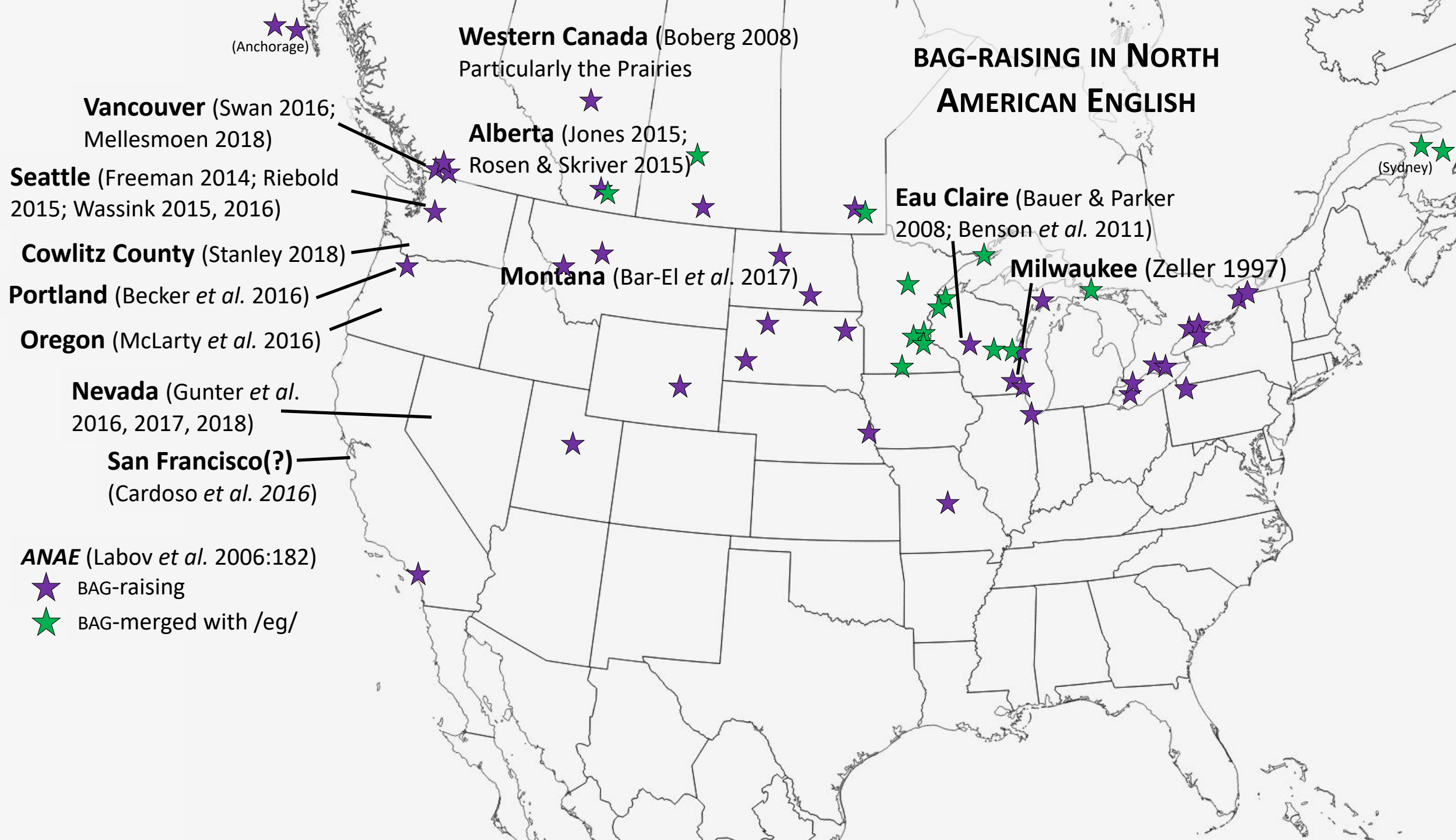
*Regulate, leg, negative, egg, megaphone, pregnant, negligent, segregate, Greg, peg, segment, renege, tegument, keg, regnant, legate, stegosaur, interregnum, dregs, Megan, segue, JPEG, legacy, nutmeg, regolith, Regulus, omega, oregano, integrity, allegro, Pegasus, eglantine, telegraphy...*

VAGUE (~16 lexemes\*)

*bagel, fragrant, flagrant, plague, vague, vagrant, rutabaga, bodega, Prego, the Hague, Copenhagen, Reagen, San Diego, Las Vegas, Trinidad and Tobago, Winnebago...*

\*By my count, which is based on the *CMU Pronouncing Dictionary* and the *Routledge Dictionary of Pronunciation for Current English* (Upton & Kretschmar 2017)

# BAG-RAISING IN NORTH AMERICAN ENGLISH



# STUDIES ON BAG

---

## Detailed phonetic descriptions

- Bauer and Parker (2008) use ultrasound data to show that it is a result of coarticulation.
- Purnell (2008) use show that raised BAG has more anterior and more lip repositioning.

## Detailed social patterns

- All ethnicities studied (in Washington) raised BEG and BEG and more socially integrated people had more raising. (Riebold 2015; Wassink 2016)
- Differences between Mormons and non-Mormons in Alberta. (Rosen & Skriver 2015)
- Suddenly lost in southwest Washington when the timber industry changed. (Stanley 2018)

## Analysis of merger

- Zeller (1997) says BAG and VAGUE are merged, but Bauer and Parker (2008) make it clear that they are not, in Wisconsin at least.
- Possibly a merger by approximation in Seattle. (Wassink 2014)

## Social meaning

- Associated with nostalgia for old Seattle while lack of raising is for "techy" Seattle (Swan 2018)
- Used more by people who like Longview and the Pacific Northwest (Stanley 2018)

# WHAT ABOUT BEG-RAISING?

---

It's far less-studied than BAG-raising

Some phonetic detail

- Seattle speakers have overlap between BEG and VAGUE along their entire trajectories. The merged vowel is centered between [e] and [ɛ]. (Freeman 2014)

Basic social patterns

- Women merge BEG with VAGUE. Men merge BAG with BEG. (Wassink *et al.* 2009)
- BEG raising in all ages. (Wassink 2015)
- Some social awareness (Freeman 2014)

Lexical factors

- Some words, like *egg* are categorically raised. (Wassink 2015; Gunter, Clayton, & Fridland 2018)

The folks at Reno

- Nevadans have BEG-raising without BAG raising. (Gunter, Clayton, & Fridland 2016a)
- They have reanalyzed BEG words as VAGUE, so they're immune to DRESS-lowering. (Gunter, Clayton, & Fridland 2016a)
- Experimental work showing vowel categorization. (Gunter, Clayton, & Fridland 2018)

# BEG-raising in North American English

**Vancouver** (Swan 2016;  
Mellesmoen 2018)

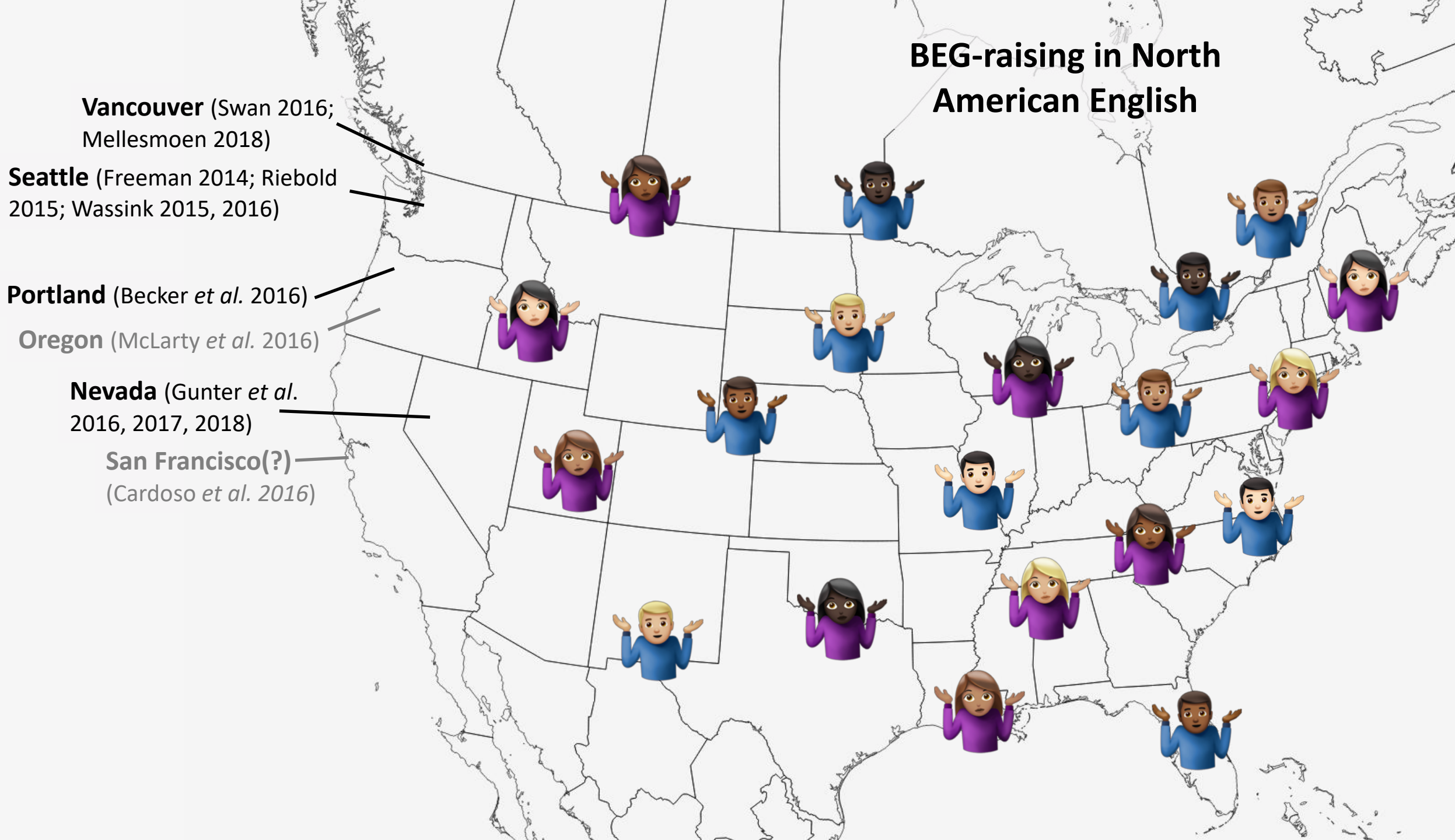
**Seattle** (Freeman 2014; Riebold  
2015; Wassink 2015, 2016)

**Portland** (Becker *et al.* 2016)

**Oregon** (McLarty *et al.* 2016)

**Nevada** (Gunter *et al.*  
2016, 2017, 2018)

**San Francisco(?)**  
(Cardoso *et al.* 2016)



## *Hypotheses*

1. BEG- and BAG-raising are independent.
2. Prevelar raising is more widespread than reported thus far.

# METHODS

---



# WORD SELECTION

---

## *CMU Pronouncing Dictionary*

"AE1 G"—560 words

"EH1 G"—418 words

"EY1 G"—223 words

## *The Routledge Dictionary of Pronunciation for Current English* (Upton & Kretzschmar 2017)\*

"æɡ"—237 words

"ɛɡ"—181 words

"eɪɡ"—53 words

\*Thanks to Bill Kretzschmar for providing me with a searchable version of this.

# WORD SELECTION

---

Consolidated these lists, removed duplicates, etc.

Selected 202 words to be included.

- borrowings (*allegro, reggae, magnum opus*)
- proper nouns: (*Skagway, Gregory, Copenhagen*)
- derived forms (*eggnog, pregnancy, megabyte*)
- polymorphemic (*sagging, begged, plagues*)
- <ex>-words (*exit, exile, excerpt, exodus*)
- everything else

Go to [joestanley.com/nwav47](http://joestanley.com/nwav47)  
to see how these language-internal  
factors affect prevelar raising.

# SURVEY

How do you pronounce the following highlighted vowel sounds?

	Like the vowel in BAKE	Like the vowel in DECK.	Like the vowel in BACK.	Somewhere between BAKE and DECK	other (see comments)
<b>pe</b> g (to hang your coat on)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
str <b>ag</b> gler (last in line)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
st <b>e</b> gosaur(us) (type of dinosaur)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
pl <b>a</b> gue (locusts, sickness, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ma <b>g</b> got (nasty little buggers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
dr <b>a</b> gs (when something just keeps going on and on)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
sh <b>a</b> ggy (in need of a haircut)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
w <b>a</b> gon (four-wheeled, red)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
M <b>e</b> gan (a woman's name)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



joestanley.com/survey

←Desktop

Mobile→

AT&T 11:29 AM 74%

uGeorgia.ca1.qualtrics.com

How do you pronounce the following highlighted vowel sounds?

reggae (type of Jamaican music) ^

☐ Like the vowel in BAKE

☐ Like the vowel in DECK.

☐ Like the vowel in BACK.

☐ Somewhere between BAKE and DECK

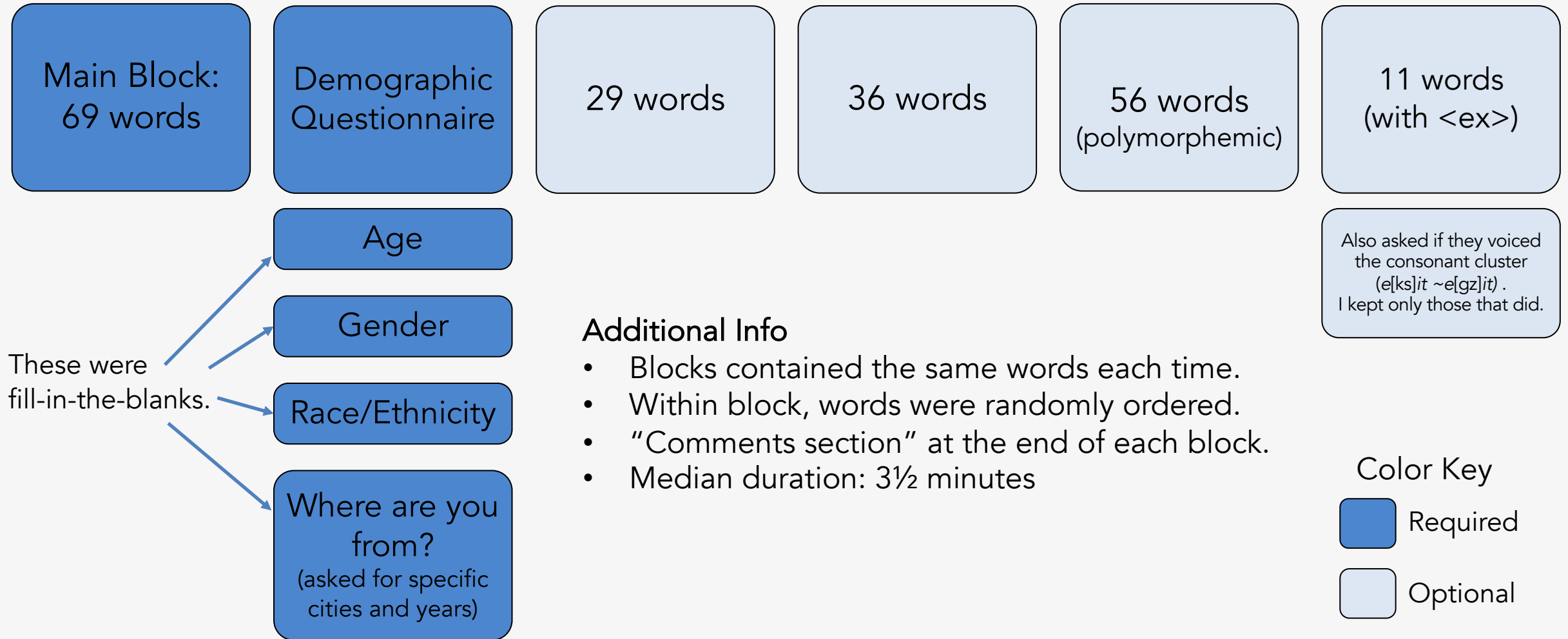
☐ other (see comments)

fla**g**rant (obviously offensive, usually describing a violation) v

Winnipe**g** (city in Canada) v

Winneb**a**go (Native American tribe; brand of motor home) v

# SURVEY



# DISTRIBUTION

---

Goal: Make sure all areas of North America are represented.

- My social network would be biased towards some regions.
- General survey site probably wouldn't get rural areas.

Solution: Reddit 

- Every US state and Canadian province/territory has its own subreddit.
- Contacted the moderators and asked to post a survey.
  - Only California, Colorado, Delaware, and Quebec said no.
- Posted the survey on weekday mornings local time over two weeks.
  - Was friendly, open, used my real name and a dedicated username (u/dialectologist)
  - Kinda phrased it to make it sound like I'm interested in just them.

# PROCESSING

---

567,831 observations from 6,987 people!

Processing location data

1. Only keep those that were in one city from ages 2 to 16
  - Resulting dataset: 5,291 people and 432,700 responses (~76% of total)
  - Median per state/province = 57.5 people)
2. Manually extract the city and state/province/territory.
3. Fetch GPS coordinates using Google Maps API
  - I used the ggmap package in R (Kahle & Wickham 2013)
4. Incorporate back into main spreadsheet.

(Only 53% grew up in the same state as where their IP address was located!)

# PROCESSING

Processing degree of raising

1. Assign answers to values
2. Take the average for BEG and BAG per person.

Like the vowel in  
BAKE

= 1

Somewhere between  
BAKE and DECK

= 0.5

Like the vowel in  
DECK

= 0

Like the vowel in  
BACK

= -1

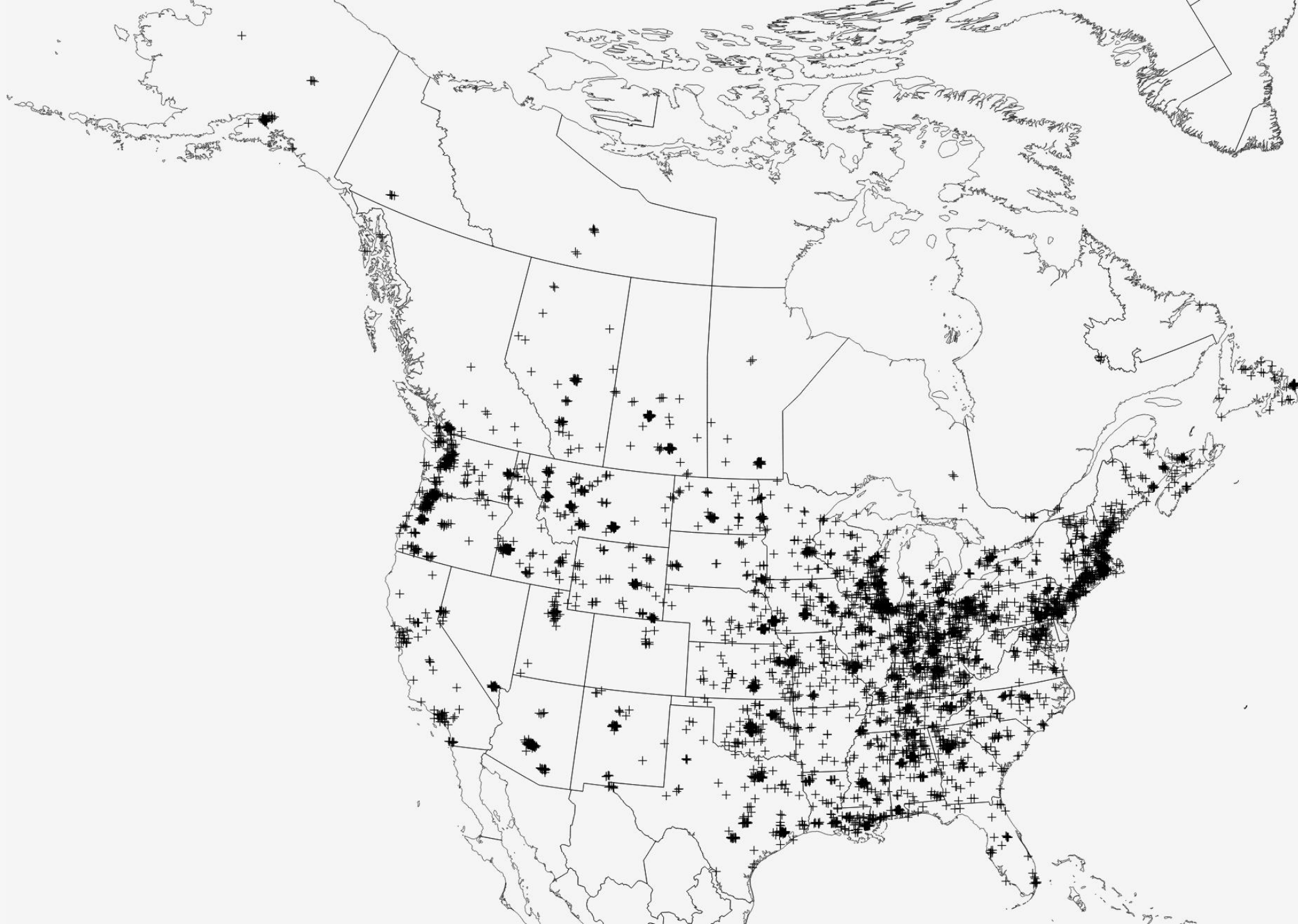
other

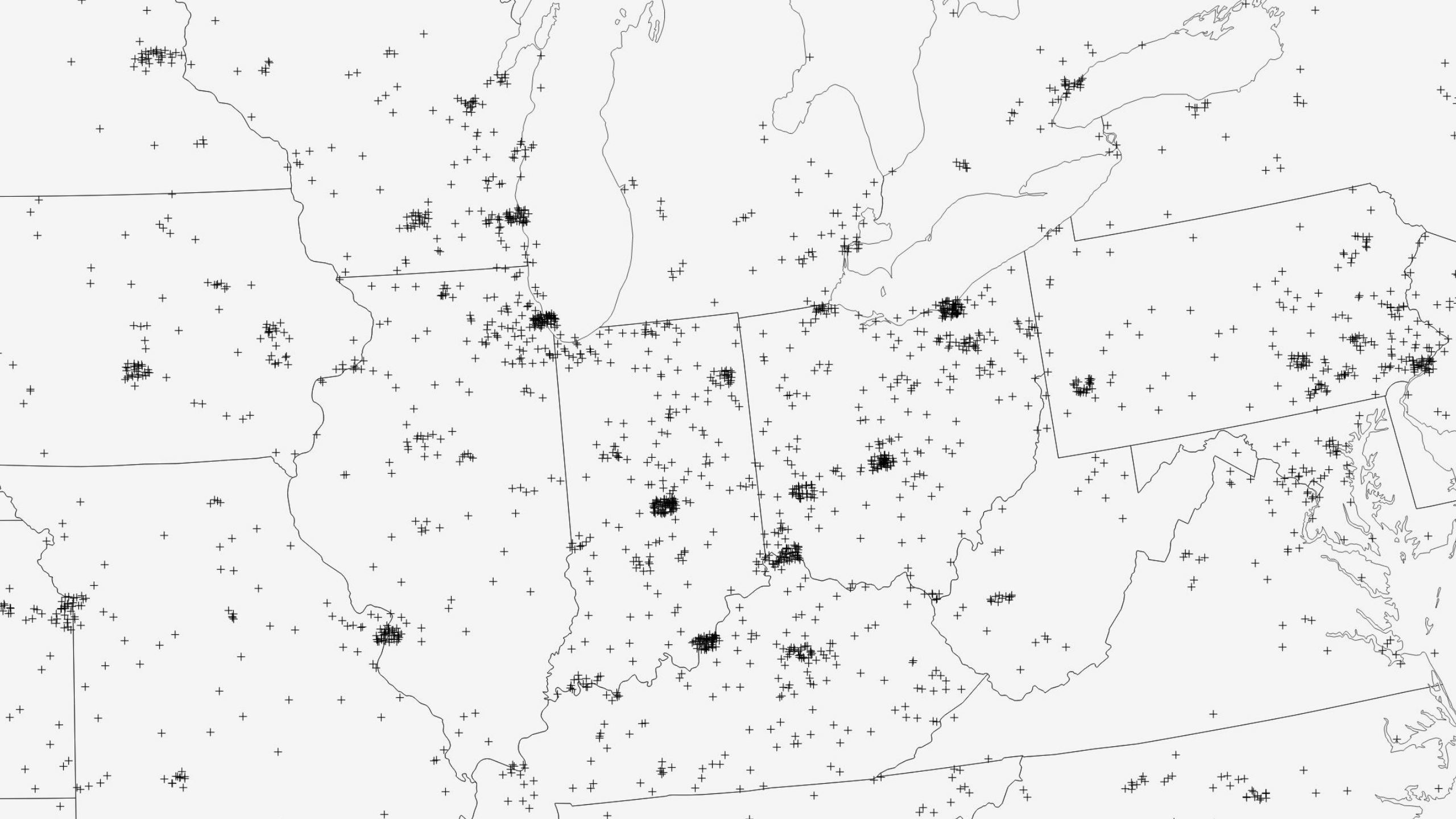
(excluded)

THIS SAMPLE

---

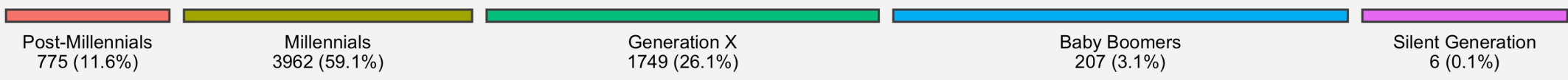
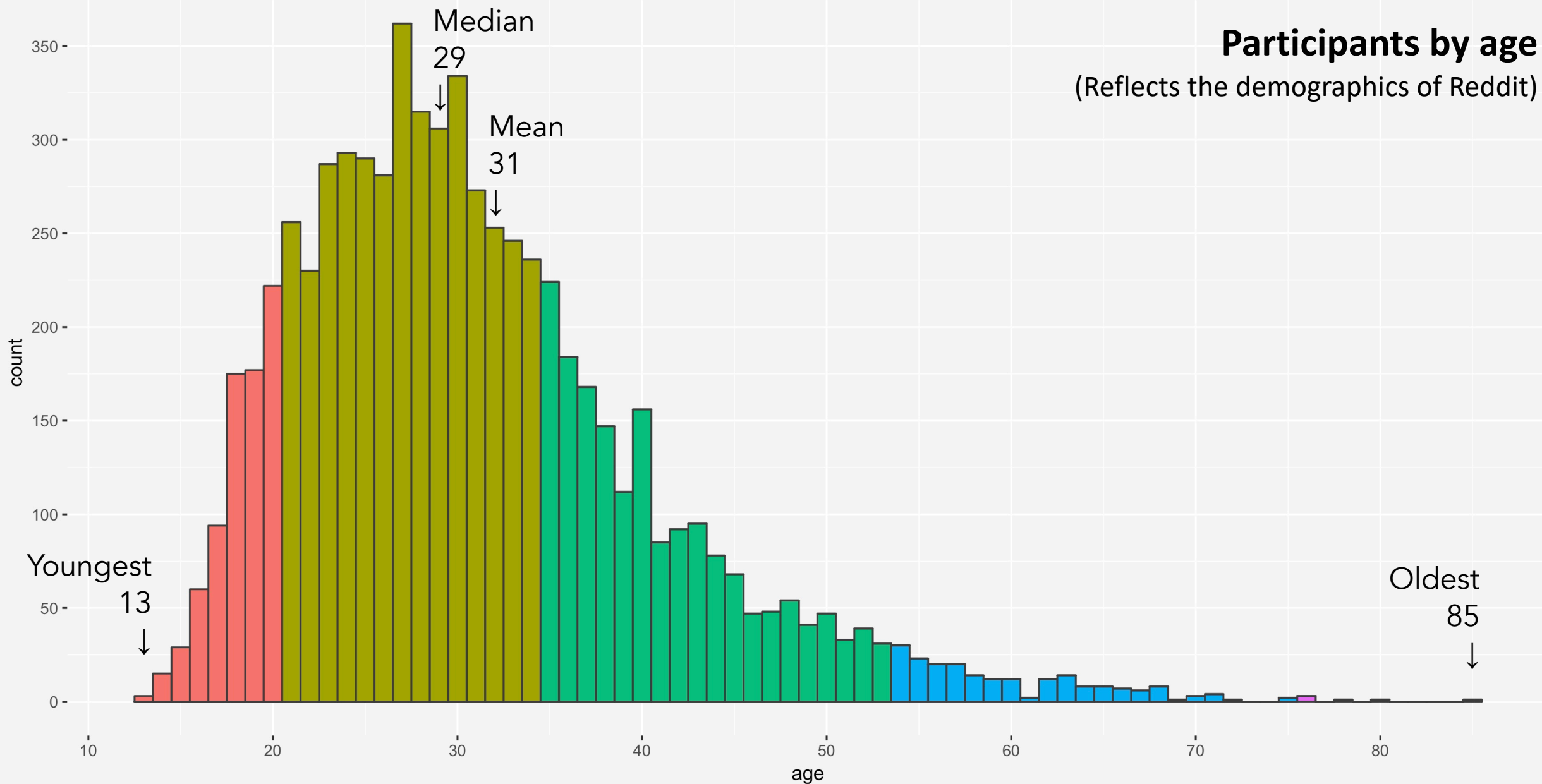






# Participants by age

(Reflects the demographics of Reddit)



# RACE/ETHNICITY

---

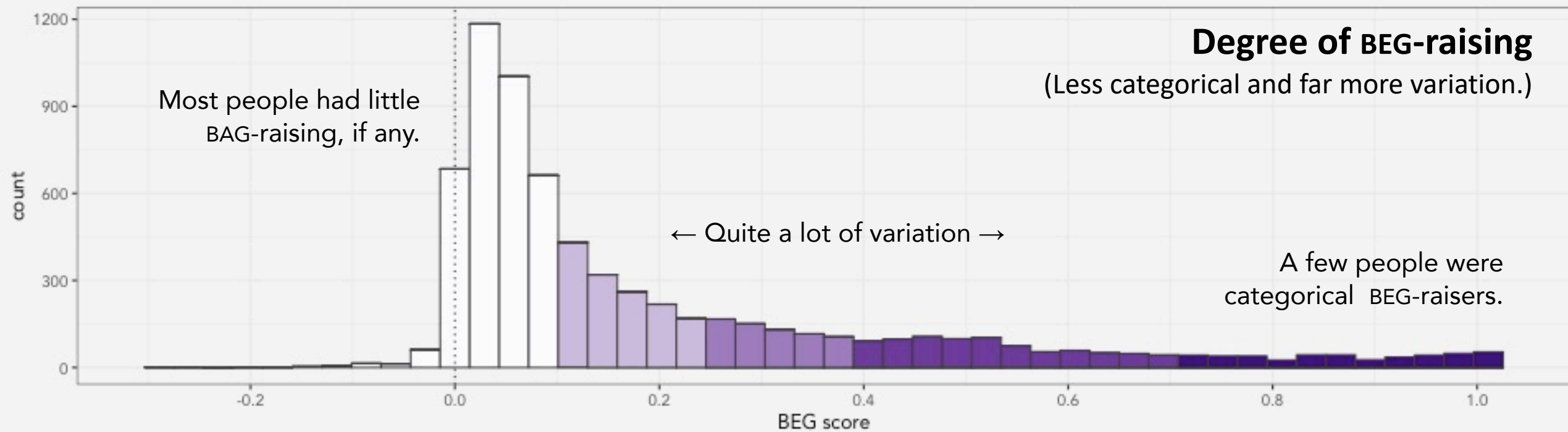
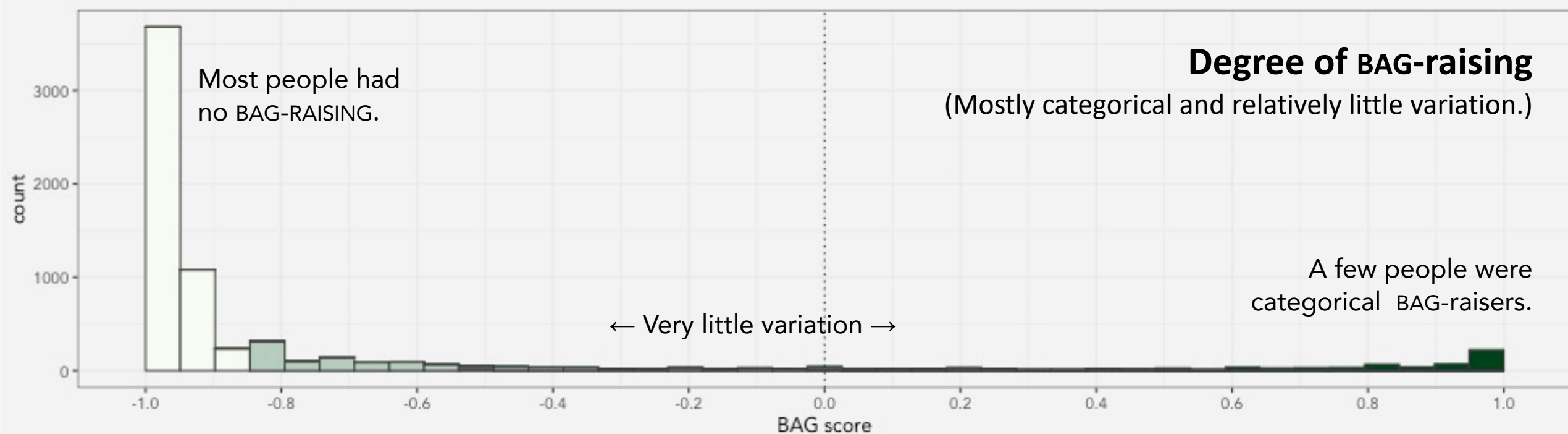
Ethnicity	responses	
White	6,092	86.5%
Hispanic	104	1.5%
Asian American	66	0.9%
Native American	30	0.4%
African American	25	0.4%
2 or more	285	4.0%
Other (e.g. Pacific Islander, Southeast Asian, Indian, Middle Eastern, etc.)	54	0.8%
No response	383	5.4%

# GENDER

Gender	responses	
male	4,329	61.5%
female	2,327	33.1%
nonbinary	15	0.21%
NA, other	3 (each)	0.043%
agender, genderqueer, queer, trans female, trans male, prefer not to answer	2 (each)	0.028%
female-ish, male-ish, genderfluid, none, female genderqueer, two spirit, male/genderfluid, male/other, transgender	1 (each)	0.14%
Some other response	28	0.40%
No response	310	4.41%

# RESULTS

---



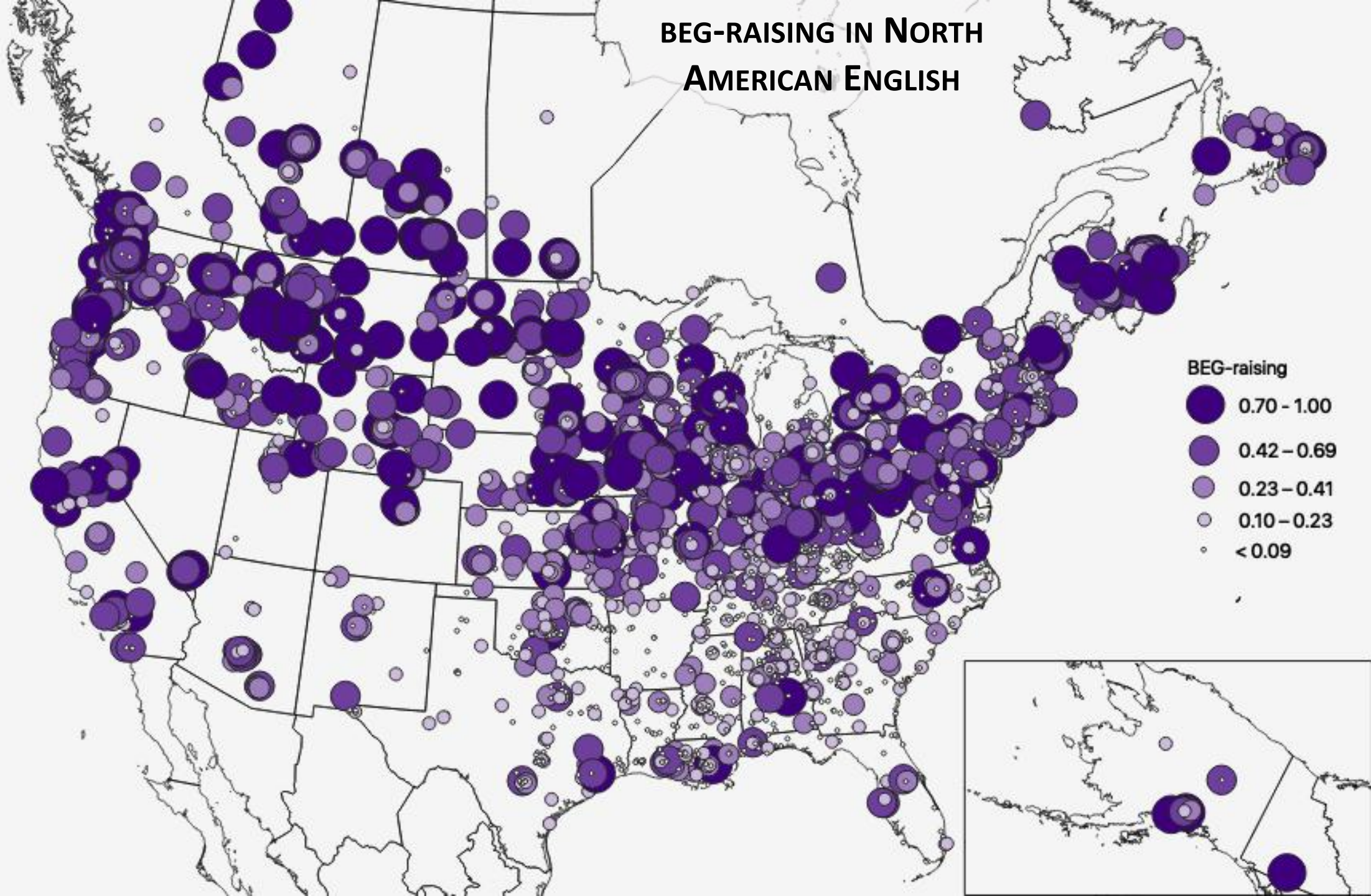


# BAG-RAISING IN NORTH AMERICAN ENGLISH

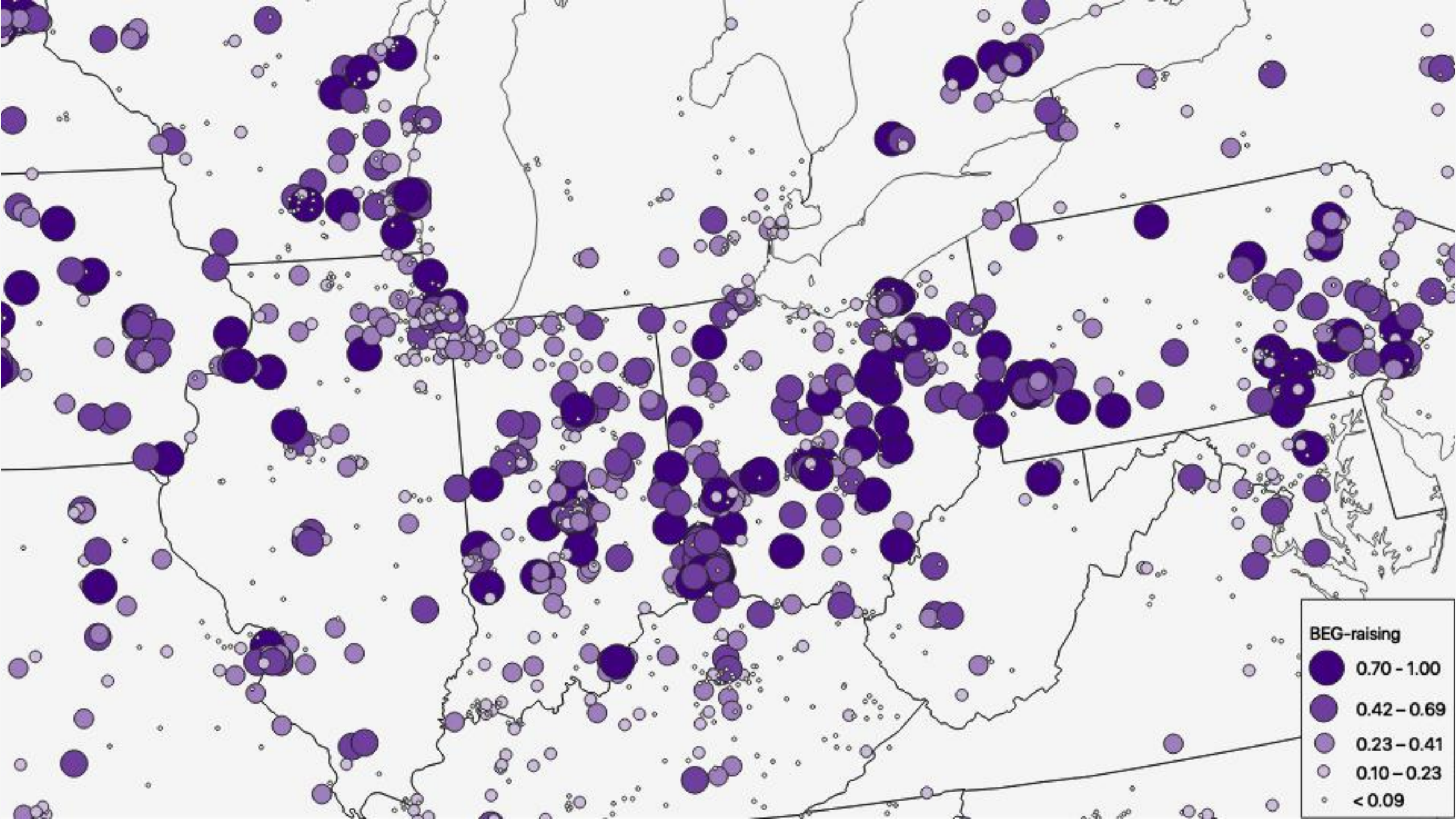




# BEG-RAISING IN NORTH AMERICAN ENGLISH







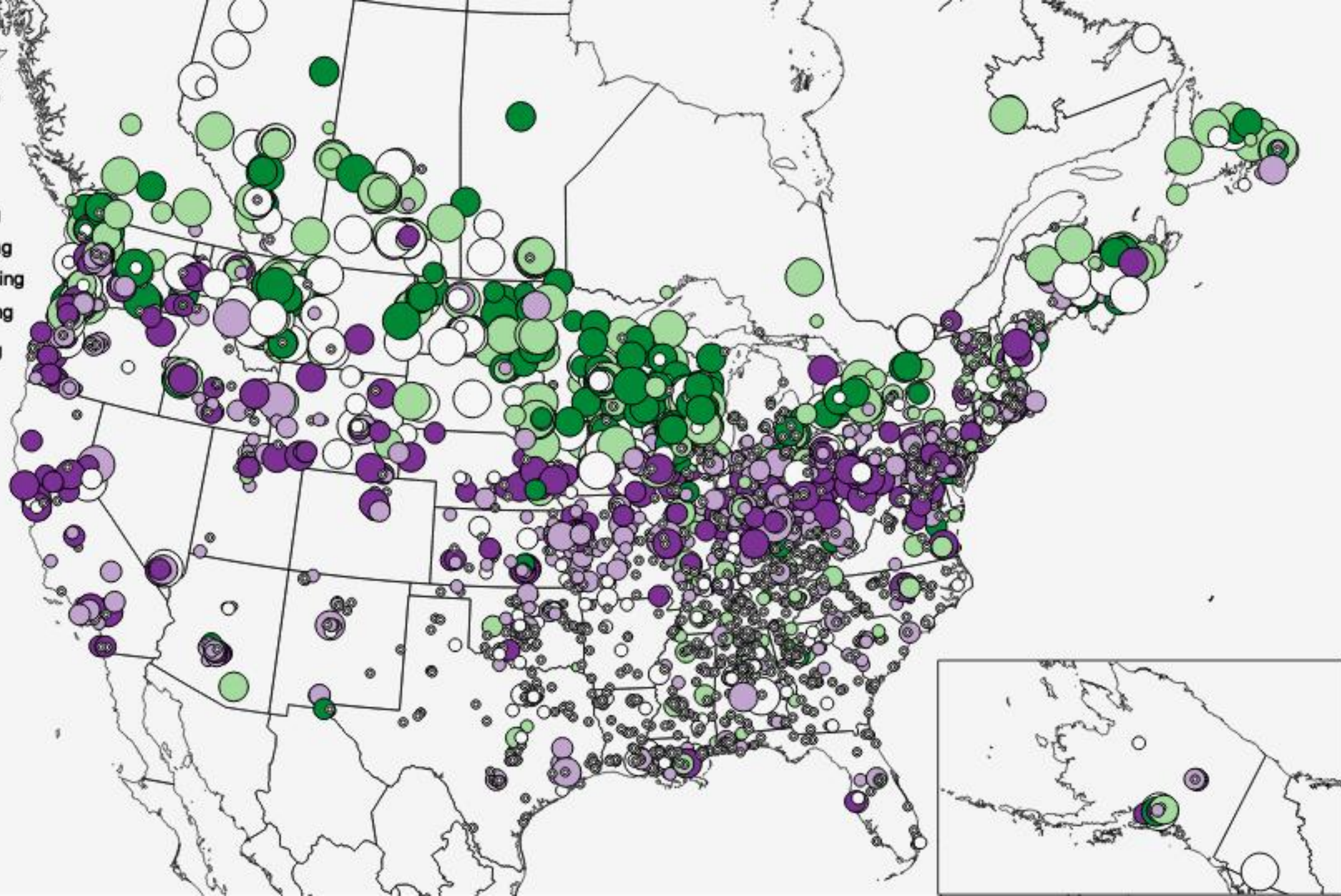


Size = Amount of Raising

- Lots of raising
- Some raising
- Little raising

Color = Type of raising

- much more BEG-raising
- slightly more BEG-raising
- BEG-raising = BAG-raising
- slightly more BAG-raising
- much more BAG-raising



# CONCLUSIONS

---

BEG- and BAG-raising are distinct!

BAG-raising only	both	BEG-raising only
<ul style="list-style-type: none"><li>• Upper Midwest</li><li>• Pacific Northwest,</li><li>• Ontario</li><li>• Prince Edward Island</li></ul>	<ul style="list-style-type: none"><li>• The Dakotas</li><li>• Montana</li><li>• Canadian Prairies</li><li>• Nova Scotia and New Brunswick.</li></ul>	<ul style="list-style-type: none"><li>• Oregon &amp; California</li><li>• Intermountain West</li><li>• Midlands</li></ul>

Avenues for future research

- This data is questionable: phonetic data needed to verify
- Sociolinguistic factors in places with lots of variation (*esp.* Ohio, Indiana)

# REFERENCES

- Boberg, Charles. "Regional Phonetic Differentiation in Standard Canadian English." *Journal of English Linguistics* 36, no. 2 (2008): 129–154. <https://doi.org/10.1177/0075424208316648>.
- Bar-El, Leora, Laura Felton Rosulek, and Lisa Sprowls. 2017. "Montana English and Its Place in the West." In Fridland et al. 2017.
- Bauer, Matt, and Frank Parker. "/æ/-Raising in Wisconsin English." *American Speech* 83, no. 4 (2008): 403–431.
- Becker, Kara, Julia Swan, and Mica Semrau. "The Social Meaning of BAG-Raising in Three West Coast Cities." presented at the Cascadia Workshop in Sociolinguistics (CWSL3), Portland, Oregon, April 13, 2018.
- Benson, Erica J., Michael J. Fox, and Jared Balkman. "The Bag That Scott Bought: The Low Vowels in Northwest Wisconsin." *American Speech* 86, no. 3 (2011): 271–311. <https://doi.org/10.1215/00031283-1503910>.
- Boberg, Charles. "Regional Phonetic Differentiation in Standard Canadian English." *Journal of English Linguistics* 36, no. 2 (2008): 129–154. <https://doi.org/10.1177/0075424208316648>.
- Freeman, Valerie. "Bag, Beg, Bagel: Prevelar Raising and Merger in Pacific Northwest English." *University of Washington Working Papers in Linguistics* 32 (2014).
- Fridland, Valerie, Tyler Kendall, Betsy E. Evans, and Alicia Beckford Wassink, eds. *Speech in the Western States: Volume 1: The Coastal States*. Publications of the American Dialect Society 101. Durham, NC: Duke University Press, 2016.
- Fridland, Valerie, Alicia Beckford Wassink, Tyler Kendall, and Betsy E. Evans, eds. *Speech in the Western States, Volume 2: The Inland West*. 1st ed. Publications of the American Dialect Society 102. Durham, NC: Duke University Press, 2017.
- Gunter, Kaylynn, Ian Clayton, and Valerie Fridland. 2016a. "Læg Raising in Nevada." presented at the American Dialect Society, Washington D.C., January 2016.
- Gunter, Kaylynn, Ian Clayton, and Valerie Fridland. 2016b. "Pre-Velar Raising and Categorization in Nevada English." presented at the Third Annual Meeting of the NorthWest Phonetics & Phonology Conference, Vancouver, BC, May 20, 2017.
- Gunter, Kaylynn, Ian Clayton, and Valerie Fridland. "Pre-Velar Raising and Categorization in Nevada." Poster presented at the New Ways of Analyzing Variation (NWAV47), New York City, NY, October 19, 2018.
- Jones, Jacqueline. "I Bag Your Pardon: The Albertan Ae/e Vowel Shift as a Window into Community Grammars." Thesis, University of Calgary, 2015. <http://dx.doi.org/10.5072/PRISM/26408>.
- Kahle, David, and Hadley Wickham. "Ggmap: Spatial Visualization with Ggplot2." *The R Journal* 5, no. 1 (2013): 144–161.
- McLarty, Jason, Tyler Kendall, and Charlie Farrington. 2017. "Investigating the Development of the Contemporary Oregonian English Vowel System." In Fridland et al. (2016).
- Mellesmoen, Gloria. "A Remedial Path to Merger: Merger by Phonological Transfer in British Columbia English." *Toronto Working Papers in Linguistics* 40, no. 1.
- Riebold, John Matthew. "The Social Distribution of a Regional Change: /Æg, Eg, Eg/ in Washington State." PhD dissertation, University of Washington, 2015.
- Rosen, Nicole, and Crystal Skriver. "Vowel Patterning of Mormons in Southern Alberta, Canada." *Language & Communication* 42 (2015): 104–115.
- Stanley, Joseph A. "Changes in the Timber Industry as a Catastrophic Event: BAG-Raising in Cowlitz County, Washington." *University of Pennsylvania Working Papers in Linguistics* 24, no. 2 (2018).
- Stanley, Joseph A. "The Differences between and within BEG and BAG: Phonological, Morphological, and Lexical Effects in Prevelar Raising." Poster presented at the New Ways of Analyzing Variation 47, New York, October 18, 2018.
- Swan, Julia Thomas. "Language Ideologies, Border Effects, and Dialectal Variation: Evidence from /æ/, /aʊ/, and /aɪ/ in Seattle, WA and Vancouver, B.C." Doctoral, University of Chicago, 2016.
- Swan, Julia. "Toward a Social Meaning of BAG-Raising: Sociohistorical Factors and Ideological Stance among Seattle and Vancouver Talkers." presented at the Cascadia Workshop in Sociolinguistics (CWSL3), Portland, Oregon, April 14, 2018.
- Wassink, Alicia Beckford. "Vowel Raising in Washington English: What's the BAG Deal?" presented at the Cascadia Workshop in Sociolinguistics (CWSL 1), University of Victoria, BC, March 1, 2014.
- Wassink, Alicia Beckford. "Sociolinguistic Patterns in Seattle English." *Language Variation and Change* 27, no. 1 (March 2015): 31–58. <https://doi.org/10.1017/S0954394514000234>.
- Wassink, Alicia Beckford. 2016. "The Vowels of Washington State." In Fridland et al. (2016).
- Zeller, Christine. "The Investigation of a Sound Change in Progress: /æ/ to /e/ in Midwestern American English." *Journal of English Linguistics* 25, no. 2 (1997): 142–155.

# Joey Stanley

University of Georgia

joeystan@uga.edu      @joey\_stan

joeystanley.com

Special thanks to Meagan Duever (@mjduever) for teaching me everything I know about mapmaking.

This slideshow available at  
[joeystanley.com/ads2019](http://joeystanley.com/ads2019)