

MORE REGIONAL PHONETIC DIFFERENTIATION IN CANADIAN ENGLISH: E/I OVERLAP IN SOUTHERN ONTARIO AND MANITOBA

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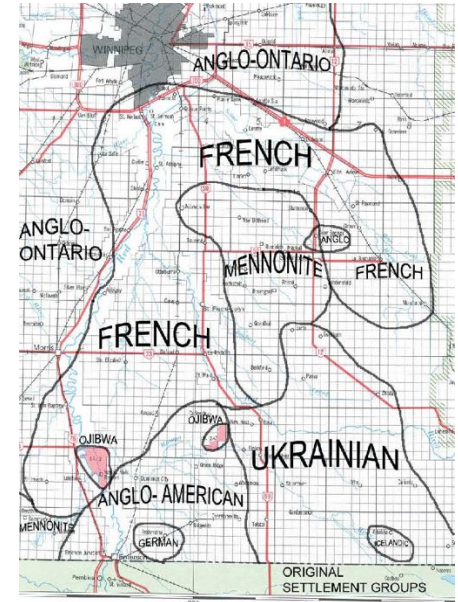
ADS Annual Meeting 2025



MANITOBA SOCIO-HISTORICAL SITUATION



- Manitoba in Prairies (West), becomes part of Canada in 1870
- Settled in ethnic blocks after 1880, in large part by non-Anglophones of agricultural background
- Other work has uncovered interesting sociophonetic patterns between these regions (stop voicing (Pffner & Rosen, 2023; in prep), sibilants (Rosen & Pffner, 2023), vowels (Sullivan & Rosen, 2023; Rosen & Sullivan, 2023))



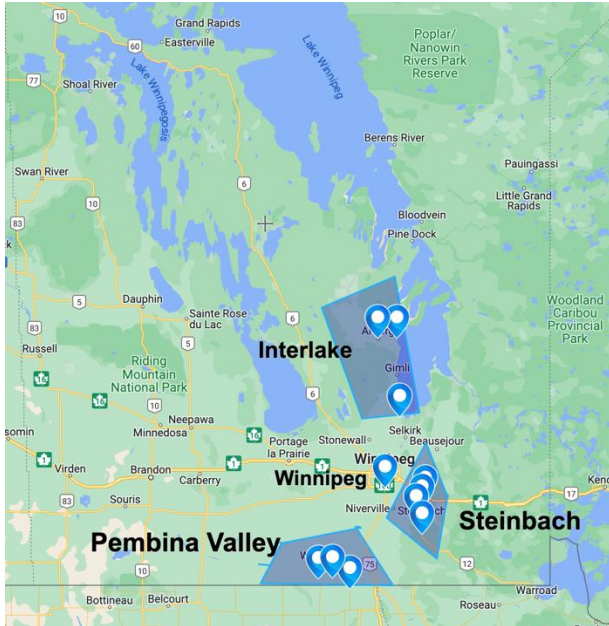
/E/-/I/ OVERLAP

- **Feature observed among Manitoba English speakers** (Sullivan & Rosen, 2023; Rosen & Sullivan, 2023)
 - **Significant overlap observed in some speakers, and more overlap overall than in Ontario and Colorado** (as observed in Sullivan, 2022)
- **Also observed in Manitoba varieties of French** (Rosen & Lacasse, 2014)
- **The current study investigates this overlap in Manitoba English in more detail and situates it in a Canadian context**

RESEARCH QUESTIONS

1. To what degree are /e/ and /i/ overlapping in Manitoba English?
2. Do we see any sociophonetic patterns?
3. How do Manitoba speakers compare to those from Ontario?

LANGUAGES IN THE PRAIRIES PROJECT

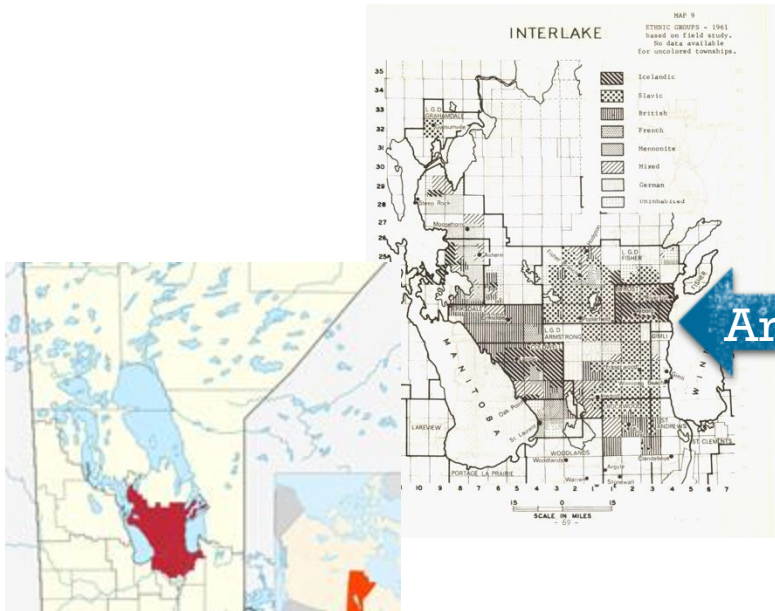


- Sociolinguistic interviews (word list, reading passage, interview) in 8 communities in MB and AB between 2009-2019
- Social info includes age, (binary) gender presentation, ethnicity, socioeconomic status, rurality, first language
- Reporting on 4 MB locations: Winnipeg, Interlake, Pembina Valley and Steinbach

WINNIPEG, MANITOBA

- Provincial capital and centre of economic, social, governmental and educational activity
- Diverse population, ~750K inhabitants

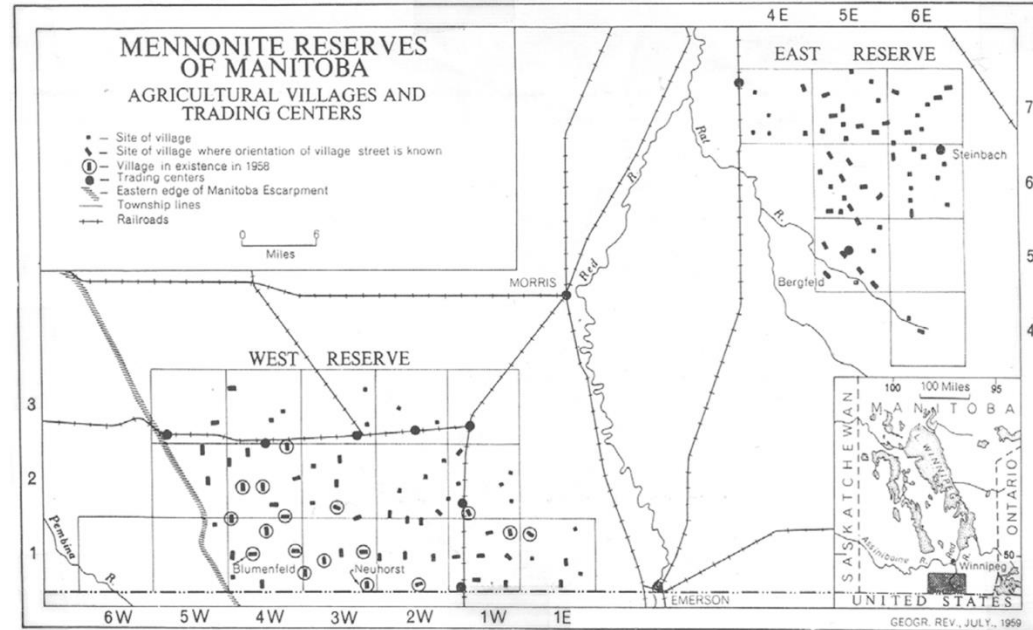
INTERLAKE REGION OF MANITOBA



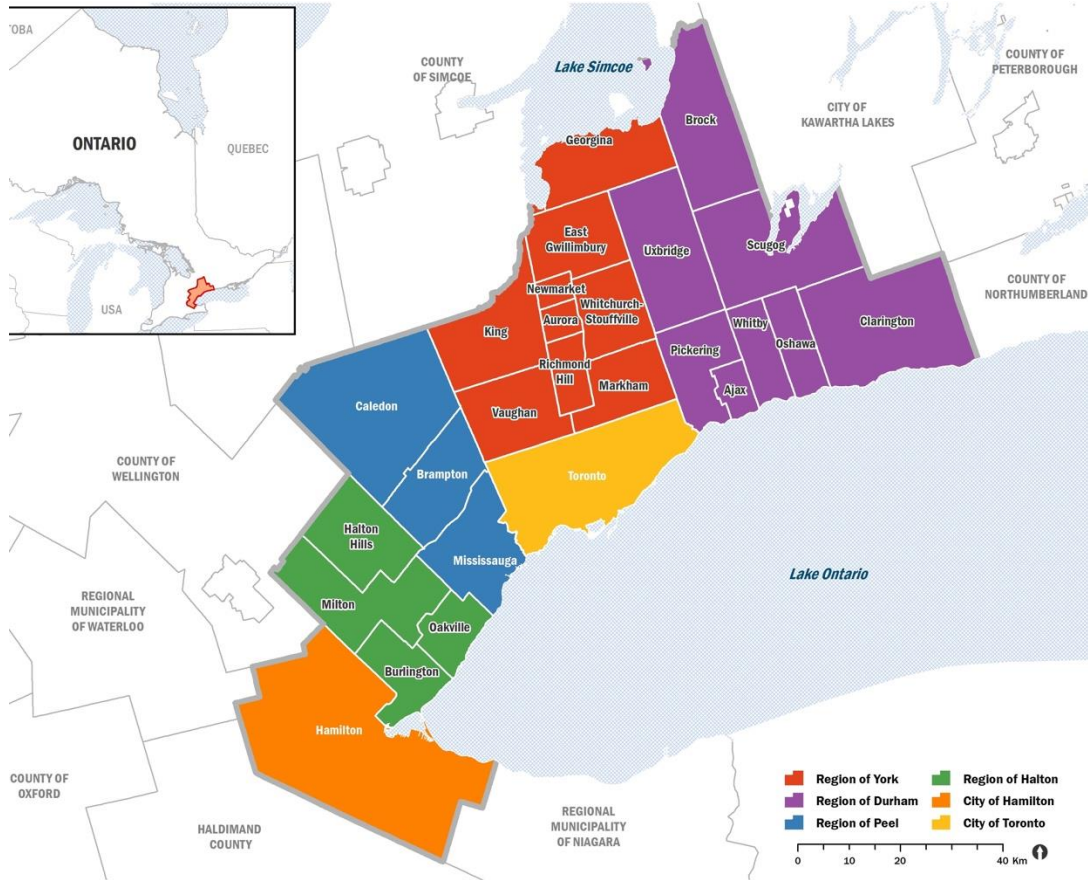
- Marginal agricultural lands settled after the 1880s, primarily by Ukrainian (agrarian) and Icelandic (fishing)
- Sampling done primarily around Arborg (Pop. 1279) (2021 Census)

STEINBACH & PEMBINA VALLEY

- Historically Mennonite regions
- Mennonites were considered early on to have 'superior potential' as immigrants and encouraged to come settle the lands south of Winnipeg
- 'East Reserve' 1873 ~ today's Steinbach
- 'West Reserve' 1876 ~ today's Pembina Valley
- Low German spoken in region as majority language until 1960s



Mennonite Reserves of Manitoba, in Warkentin (1959)



GTHA

- Greater Toronto Hamilton Area + some nearby cities (Brantford, Cambridge, Peterborough)
- Largest urban centre in Canada (~ 3M)
- Wordlist reading data collected in 2021 as part of a larger study investigating /æɪg/-raising including Ontario, more broadly, and Colorado

PARTICIPANTS

Manitoba

Age		Interlake			Winnipeg			Steinbach			Pembina Valley		
		<i>F</i>	<i>M</i>	<i>T</i>	<i>F</i>	<i>M</i>	<i>T</i>	<i>F</i>	<i>M</i>	<i>T</i>	<i>F</i>	<i>M</i>	<i>T</i>
<i>Older</i>	<i>1925-1960</i>	7	4	11	4	3	7	7	7	14	7	4	11
<i>Middle</i>	<i>1961-1980</i>	4	4	8	7	3	10	6	4	10	8	6	14
<i>Young</i>	<i>1981-2003</i>	5	1	6	14	5	19	7	2	9	7	8	15
Total		16	9	25	25	11	36	20	13	33	22	18	40

GTHA

- 22 participants: 12 female, 10 male
- Birth year 1990-2003

LIPP PROCEDURE & STIMULI

- Participants were interviewed in their homes using a Zoom H4N recorder with an external lapel microphone.
- Participants did the interview first, followed by the word list and reading passage
- The word list was done using a timed PowerPoint presentation
- Participants completed 1 repetition of the word list
 - /i/: see, seen, seed, seat, heed, heat
 - /e/: say, stain, state, stayed, hate

SULLIVAN (2022) PROCEDURE & STIMULI

- Participants completed a reading task completed online using Gorilla platform (Anwyle-Irwine et al. 2020) using their computer microphones
 - Participants were required to use a computer & not a phone to maintain a reasonable level of audio quality
- 3 repetition of each word
 - /i/: beet, bead
 - /e/: bait, bade

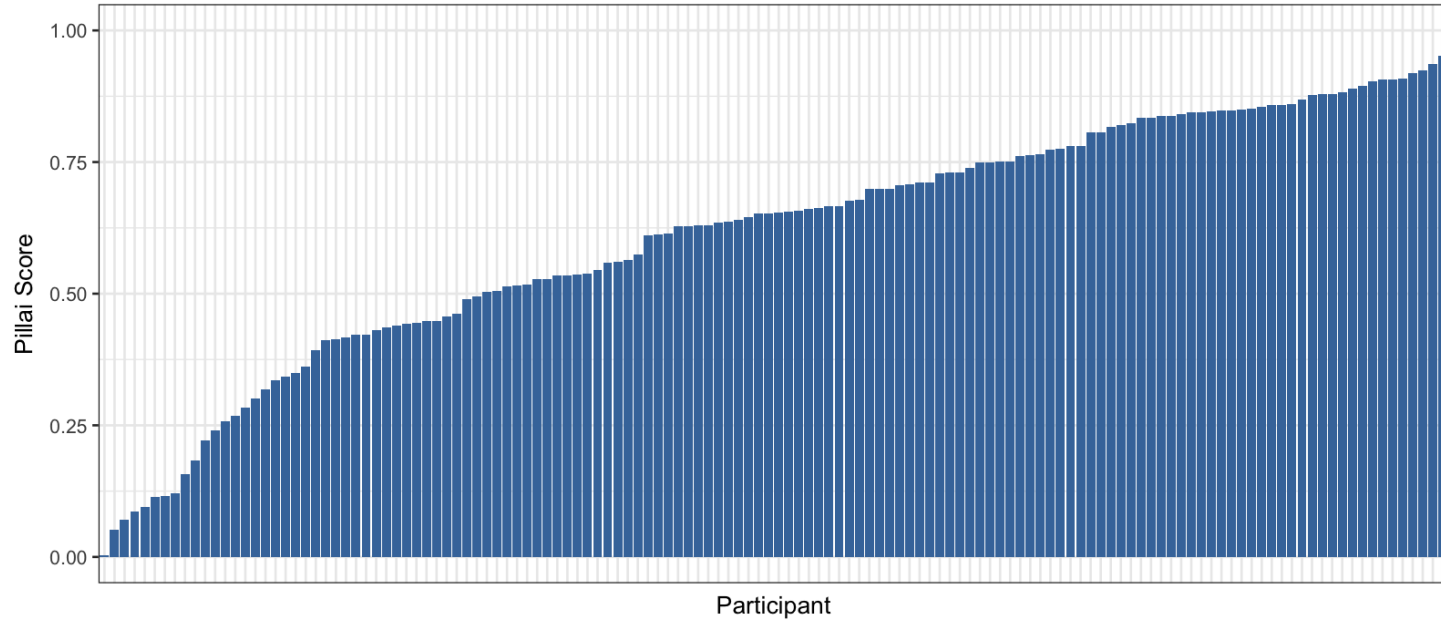
ACOUSTIC ANALYSIS

- Word list data was force aligned using FAVE-align (Rosenfelder et al., 2004) (LIPP) and the Montreal Forced Aligner (McAuffile et al., 2017) (Sullivan 2022)
 - Alignments were checked and manually corrected in Praat (Boersma & Weenink, 2022)
- F1 and F2 measurements were extracted using by-participant formant values at the midpoint of each vowel
 - F1 and F2 values were plotted and visually inspected for formant tracking errors (which were corrected or removed)
- Pillai Scores were calculated to measure /e/-/i/ overlap (lower Pillai score = more overlap)

STATISTICAL ANALYSIS

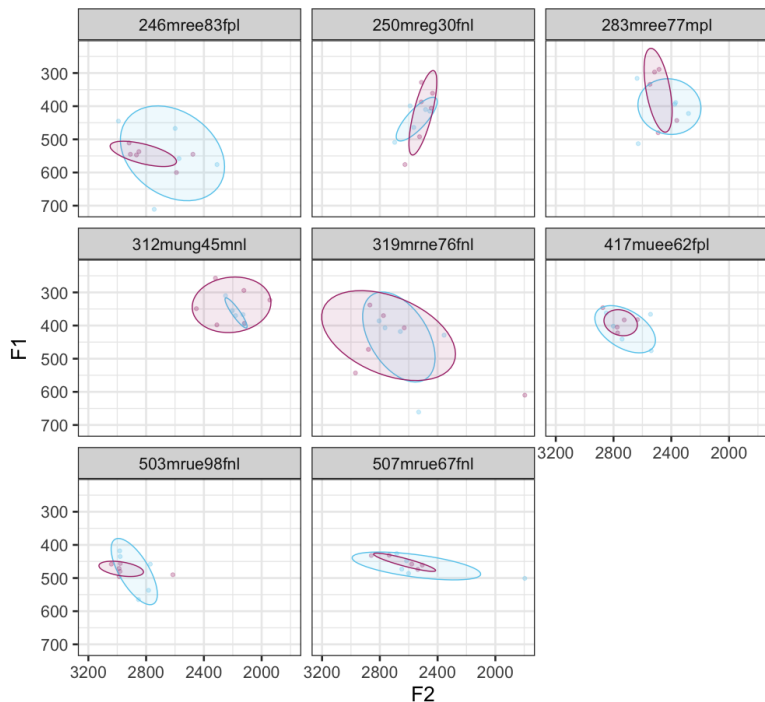
- **Buildmer** (Voeden, 2023) with log-likelihood ratio test to build models from full interaction models with the following variables, as appropriate in R (R Core Team, 2020)
 - **Response Variable:** Pillai Score
 - **Predictor Variables:** Age, Gender, SES, Region
 - **Random Intercepts:** Ethnicity, L1
- **Manitoba Model:** `lm(Pillai~Gender)`
- **MB/WPG vs GTHA Models:** `lm(Pillai~Gender+Region)`

OVERALL MANITOBA RESULTS



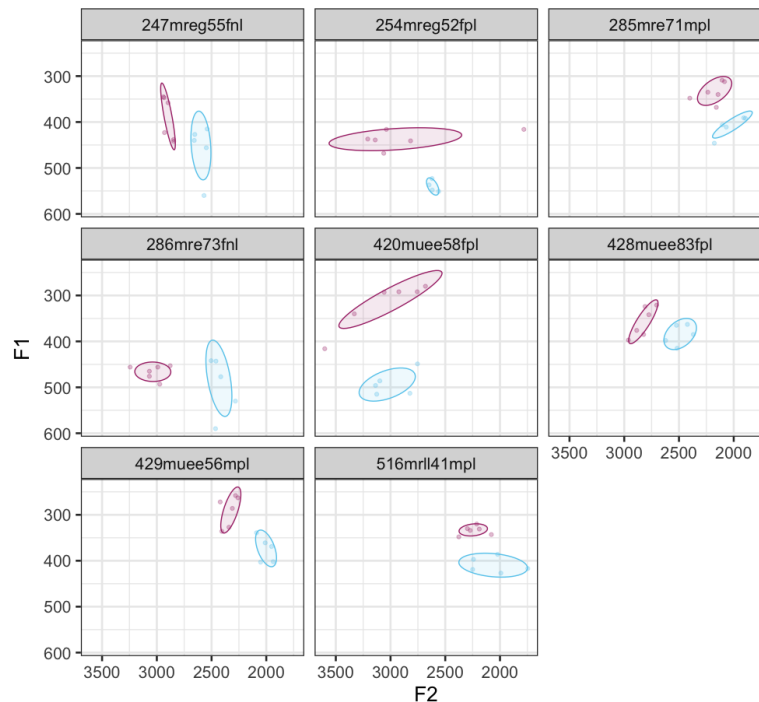
MOST VS LEAST OVERLAP PLOTS

Most Overlap

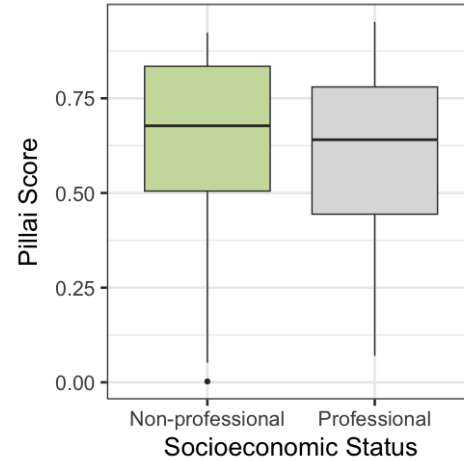
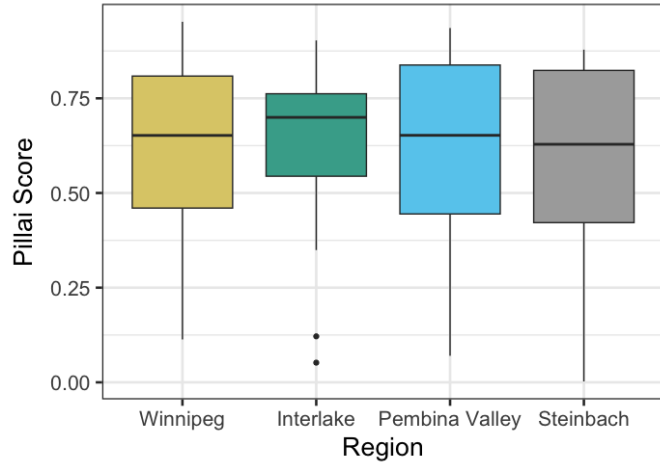


Vowel □ e □ i

Least Overlap

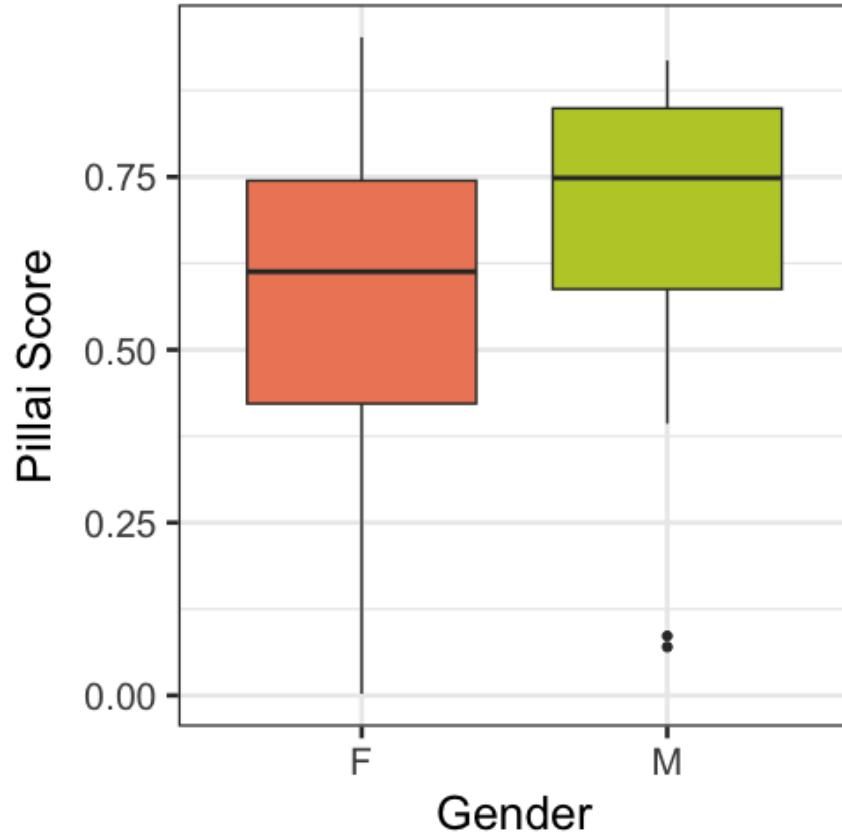


Vowel □ e □ i



MANITOBA RESULTS: REGION, SES

- No Significant Differences

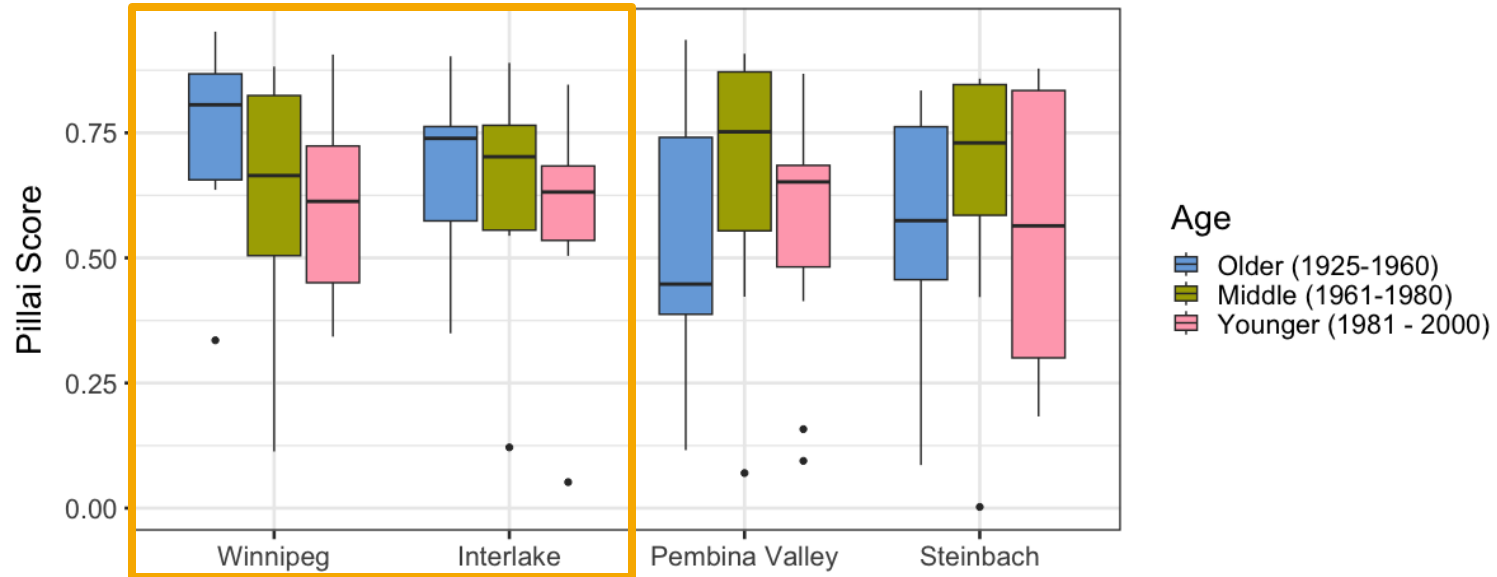


MANITOBA RESULTS: GENDER

- Female speakers have more overlap than male speakers (sig.)

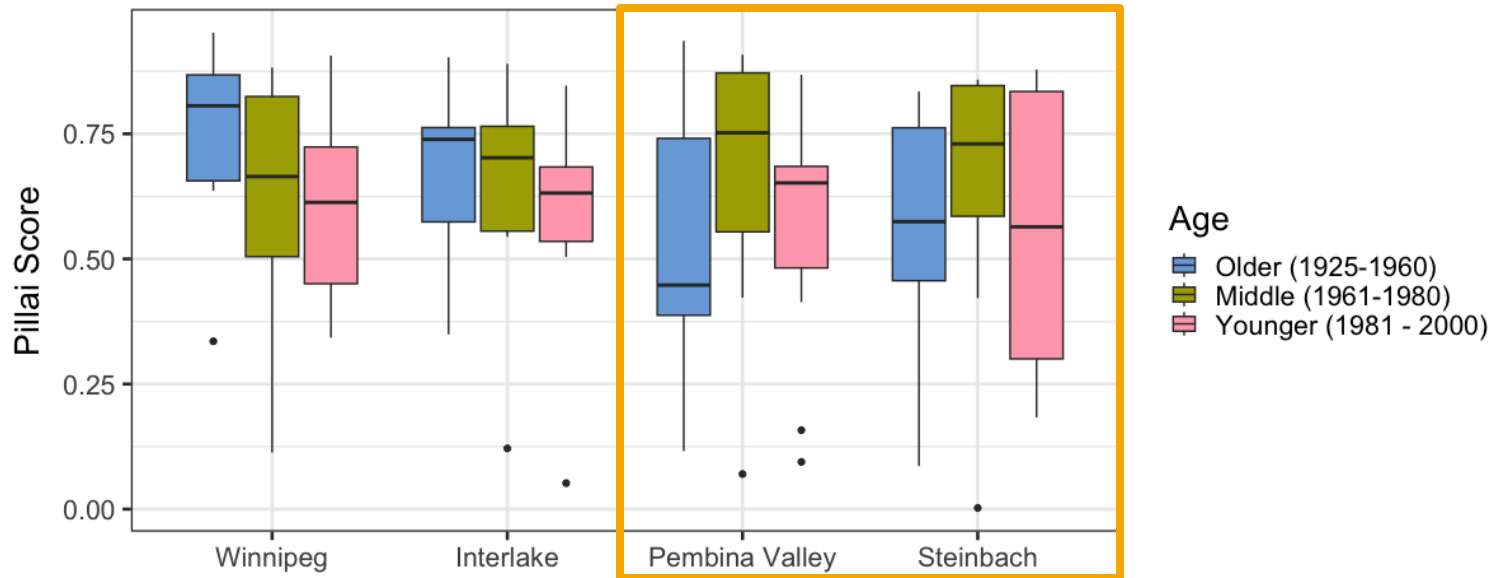
MANITOBA RESULTS AGE

- Not significant, but seem to be regional patterns
- Winnipeg & Interlake: moving towards more overlap

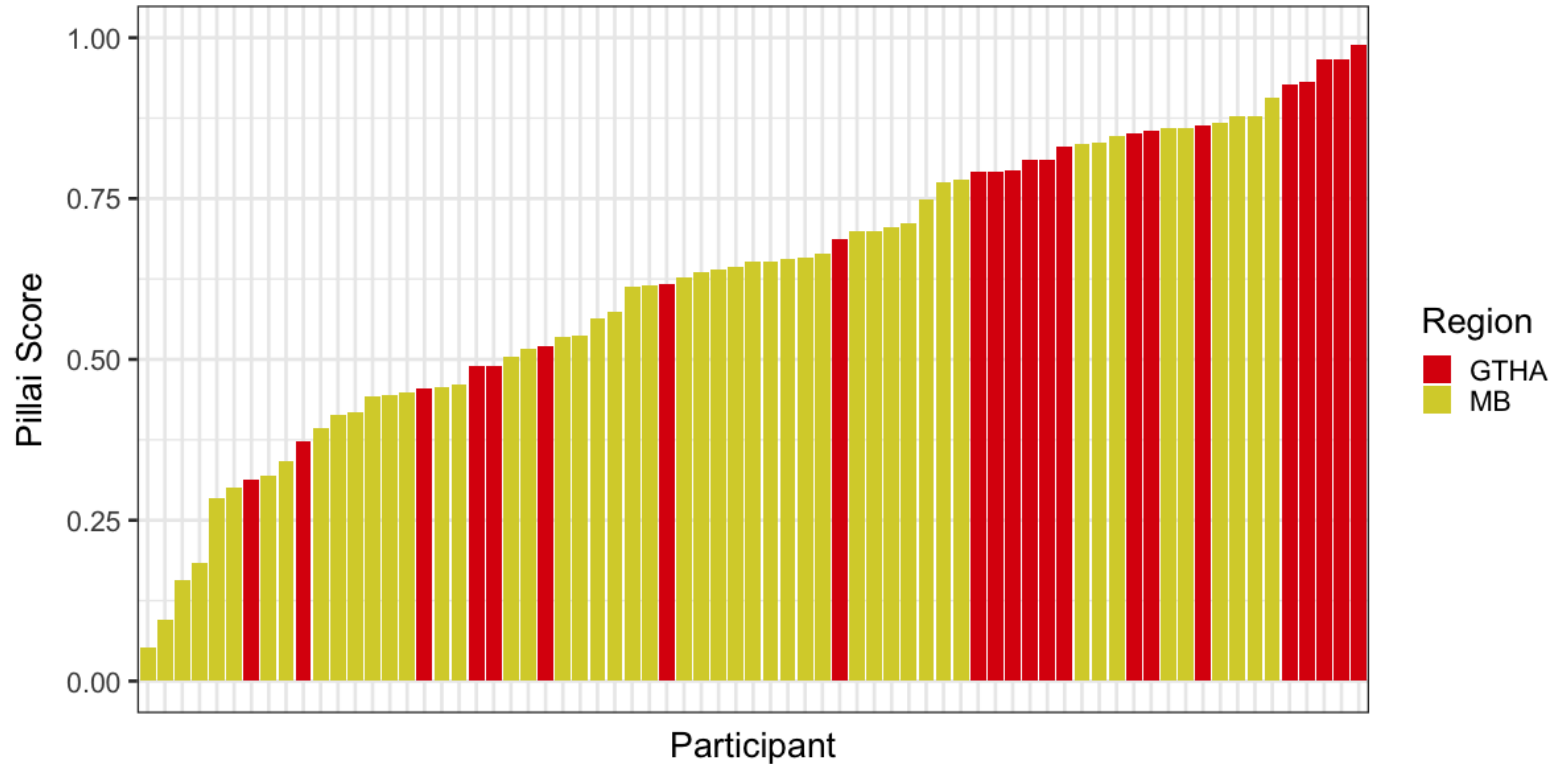


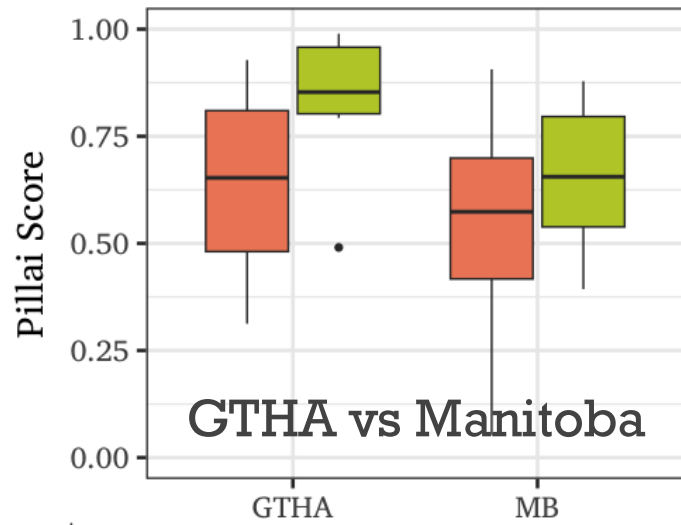
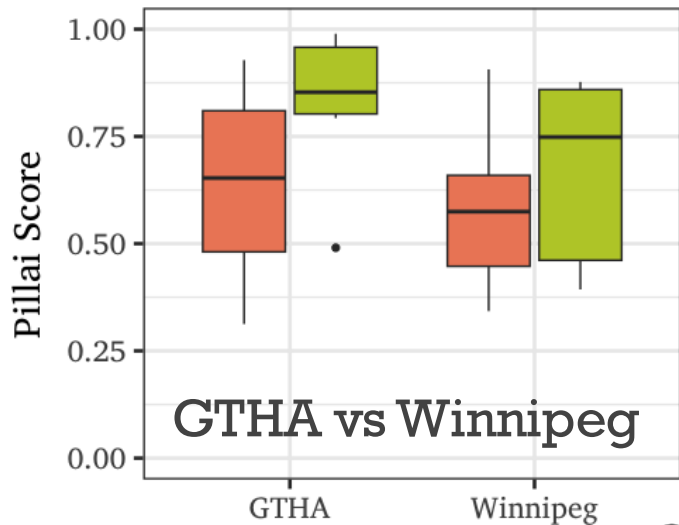
MANITOBA RESULTS AGE

- Steinbach & Pembina Valley: Middle and younger groups show same trend as Winnipeg & Interlake
- Oldest group has more overlap; may be due to L2 influence – most are L1 Low German speakers (though no obvious phonetic influence based on Cox et al 2013)



COMPARING MB (YOUNG) TO GTHA





Gender ■ F ■ M

GTHA VS MB & WINNIPEG

- MB more overlap than GTHA
 - Also true for just Winnipeg
- Female speakers have more overlap than male speakers

SUMMARY

- /i/~e/ overlap more prevalent in MB than the GTHA, but with variation between speakers
- Possible (non-sig) change in progress towards more overlap
- In MB, overlap seems to be strongest among the youngest, female, non-professional
- Older Low German L1 speakers pattern differently

DISCUSSION

- Rosen & Sullivan (2023) argue that non-professionals seem to be ahead in other vowel changes in rural Interlake
- Pfiffner & Rosen (2023; in prep), Rosen & Pfiffner (2023) show
 - Much lower CoG for /s/ in MB than elsewhere in N. America
 - More voicing in stops in MB than elsewhere in N. America
- Region tends towards ‘country’ ‘anti-elite’ ‘down-to-earth’ stances or *covert prestige* variants

MANITOBA ANTI-ELITISM, 'AUTHENTICITY'

WINNIPEG BRAND

WINNIPEG: MADE FROM WHAT'S REAL

Winnipeg is authentic to the core. Genuine experiences abound here. We don't sugarcoat; we problem-solve.



The predominately Métis fishing community in St. Laurent, Man., still uses Bombardier snow coaches — decades after they were made — as transportation and shelter to handle the harsh winter conditions on Lake Manitoba.

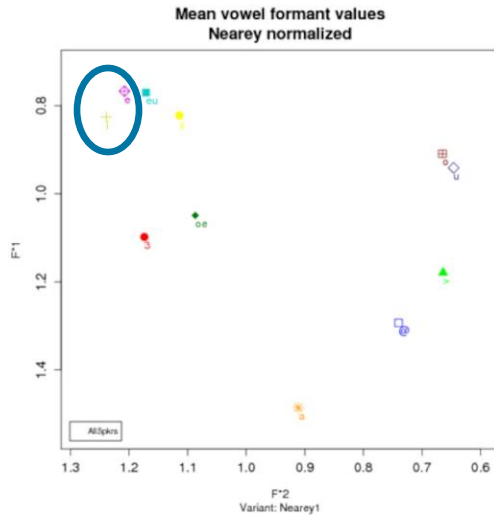
<https://www.cbc.ca/news/canada/manitoba/bombardiers-still-the-ultimate-manitoba-ice-fishing-machine-decades-after-they-were-last-made-1.7157559>

SOCIAL WORK OF /E/-/I/ OVERLAP?

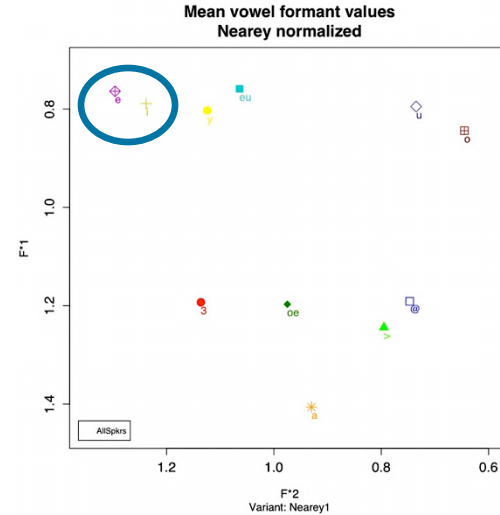
- Podesva (2021) argues that embodiment can be a driver of sociophonetic change, ie. long t-release is hyper-articulated, which comes to represent prissy, hyper-articulate stances
- The /e/-/i/ overlap could also be seen as less articulation in vowel space, i.e. a similar embodiment of similar anti-articulate, anti-elite stances
- Women tend to have more peripheral vowels, less overlap, but not in MB where they lead overlap
- Could /e/-/i/ overlap reflect similar covert prestige/anti-elitist stance in the region?

OTHER REGIONAL /E/- /I/ OVERLAP

Michif French



Manitoba French



CONCLUSIONS

- Evidence of a possible /e/-/i/ overlap change in progress in Manitoba but either not so in the Greater Toronto area, or possibly later in development
- Possibly part of a cluster of phonetic features driven by anti-elitist ethos emerging from a peasant culture reliant on agriculture, resource extraction and of collective organizing (ie 1919 Winnipeg General Strike), as seen in other sociolinguistic variables (Pfiffner & Rosen, Podesva, etc.)

THANK YOU!

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REFERENCES

- Anwyl-Irvine, A. L., Massonnié, J., Flitton, A., Kirkham, N., & Evershed, J. K. (2020). Gorilla in our midst: An online behavioral experiment builder. *Behavior research methods*, 52(1), 388–407.
- Bates, D., Mächler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, 67(1), 1–48. doi: 10.18637/jss.v067.i01
- Boersma, P. & Weenink, D. (2022). Praat: doing phonetics by computer (Version 6.3.02). [Computer program]. <http://www.praat.org>
- Cox, Christopher, Jacob Dridger, Benjamin Tucker. (2013) Mennonite Plautdietsch (Canada Old Colony) *Journal of the International Phonetic Association* (2013) 43/2 International Phonetic Association doi:10.1017/S0025100313000121
- McAuliffe, M., Socolof, M., Mihuc, S., Wagner, M., & Sonderegger, M. (2017). Montreal Forced Aligner: Trainable Text-Speech Alignment Using Kaldi. In *Interspeech*, 498-502.
- R Core Team. (2020). R: A language and environment for statistical computing [Computer software manual]. Vienna, Austria. Retrieved from <https://www.R-project.org/>

REFERENCES

- Rosen, N. & Lacasse, E.. 2014. Une comparaison des voyelles postérieures du français mitchif et du français franco-manitobain. In Papen, Robert & Sandrine Hallion Bres, eds. *À l'ouest des Grands Lacs: communautés francophones et variétés de français dans les Prairies et en Colombie-Britannique*. Presses de l'Université Laval.
- Rosen, N., & Sullivan, L. (2023). Front vowel patterning in the Interlake region of Manitoba, Canada. In Radek Skarnitzl & Jan Volín (Eds.), *Proceedings of the 20th International Congress of Phonetic Sciences*. (pp. 501-505). Guarant International.
- Rosenfelder, I., Fruehwald, J., Brickhouse, C., Evanini, K., Seyfarth, S., Gorman, K., Prichard, H., Yuan, J. (2022). FAVE (Forced Alignment and Vowel Extraction) Program Suite v2.0.0 /*zenodo*.
- Rosen, N. & Piffner, A. (2023). A culture of labour: indexing 'blue-collar' through a lower /s/ COG in Manitoba, Canada. Paper presented at *NWAV51*, New York, NY.

REFERENCES

- Pfiffner, A. & Rosen, N. (2023). Stop voicing in two settler communities on the Canadian Prairies. In R. Skarnitzl & J. Voln (Eds.), *Proceedings of the 20th International Congress of Phonetic Sciences* (pp. 3662-3665). Guarant International.
- Podesva, R. J., D'onofrio, A., Van Hofwegen, J., & Kim, S. K. (2015). Country ideology and the California vowel shift. *Language Variation and Change*, 27(2), 157-186.
- Sullivan, L. (2022). *Pre-velar /æ/-raising in Ontario and Colorado English: Production, perception and metalinguistic awareness*. [Doctoral Dissertation, University of Toronto]. Dissertations & Theses @ University of Toronto.
- Sullivan, L., & Rosen, N. (2023). Vowel patterning in Manitoba. *2023 annual meeting of the Canadian Linguistic Association*. York University.
- Voeten, C.C. (2023). *buildmer: Stepwise Elimination and Term Reordering for Mixed-Effects Regression*. R package version 2.9. <https://CRAN.R-project.org/package=buildmer>