



# Indexing political identity through syntactic variables: Classifier specificity in pro-Taiwan and pro-China Taiwan Mandarin speakers

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# Political indexicality

- Linguistic variables have been found to **index political identity**:
  - Hall-Lew *et al.* (2010; 2012) found that:
    - $Ir[a:]q \sim Ir[\ae]q$  could index political liberalism ~ conservatism.
    - Republicans are significantly more likely than Democrats to use /æ/ in the House of Representatives.
  - Sloman *et al.* (2021) extracted words more likely to be used by Republican/Democrat politicians, and found that speakers are able to guess which word is more likely to be used by Republicans/Democrats at an above-chance rate.



# Political indexicality

- Linguistic variables have been found to **index political identity**.
- Previous studies, however, focused on **phonetic and lexical** variables.
- We investigated whether nuanced morphosyntactic distinctions may also serve to index political identity:
  - **Classifier specificity among pro-Taiwan & pro-China Taiwan Mandarin speakers.**



# Classifier specificity

- In Mandarin, classifiers are paired w/ the noun referents (Hsieh, 2009; Her & Hsieh, 2010; Her & Lai, 2012; Yip

& Rimmington, 2015).

- Nouns may only go w/ certain classifiers.

一 隻 狗。  
Yi zhi gou.  
one CL:animal dog  
“A dog.”

一 個 狗。  
Yi ge gou.  
one CL:general dog  
“A dog.”

\*一 顆 狗。  
Yi ke gou.  
one CL:round dog  
Intended: “A dog.”



# Classifier specificity

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- Nouns may only go w/ certain classifiers.

- Nouns can go w/ more than one classifier:

- An array of classifiers to choose from.

→ The “general” classifier **ge 個** vs.  
specific classifiers

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# Classifier specificity & sociolinguistic meaning

- Zheng & Liu (2023) found that classifier specificity indexed different perceived personal traits among Mandarin speakers recruited on a social media platform:
  - The use of the specific classifiers was rated as more meticulous & steady.

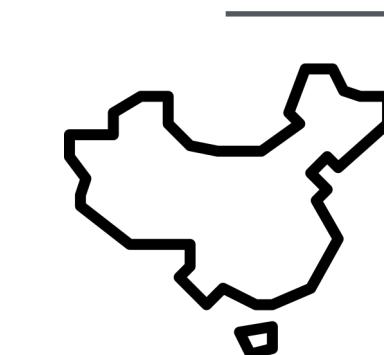
# Classifier specificity as political indexicality

- Taiwanese political polarization is based less on a left-right ideology but more on the *pro-Taiwan* vs. *pro-China* division (Hsiao & Cheng, 2014).
- In this study, we investigate: **(Q1) Can classifier specificity likewise be used to index political identity among pro-Taiwan & pro-China Taiwan Mandarin speakers?**



# Classifier specificity as political indexicality

- Hall-Lew & van Eynhoven (2025) propose that political indexicality is typically derived from *politicizing* an existing indexicality.
- Intuitively, the indexicality of variety (Taiwan Mandarin ~ Chinese Mandarin) is the most likely target. → **(Q2) Would the variety differences b/t Taiwan Mandarin & Chinese Mandarin show a similar directionality?**



Chinese Mandarin



Taiwan Mandarin

pro-China

pro-Taiwan



# Data

- To answer these questions, we collected spontaneous speech data from 2,841 publicly-accessible YouTube videos created by Taiwanese & Chinese creators (2,345,967 sentences; 11,453.56 hours of speech).



A screenshot from one of the videos, HahaTai 哈哈台 (2024, Oct. 24). A person is being interviewed.



# Methods

## Classifier specificity

- Classifier-noun pairs (adjacent & nonadjacent) were extracted using Stanford CoreNLP (212,150 pairs extracted).
- We modeled classifier specificity on two levels:
  - Continuous specificity: the mean absolute **pointwise mutual information** (i.e., the degree of association) b/t a classifier & all the co-occurring nouns
  - Binary distinction: **general** (ge 個 & jian 件) **vs.** **specific** (others) **classifiers** (based on their PMI distribution)

$$PMI(classifier, n) = \frac{P_{corpus}(n | classifier)}{P_{corpus}(n)}$$



# Methods

## Social factor labeling

- Political identity: labeled based on the content creators/news media.



A pro-China legislator criticizing Trump's tariff policies (TVBS Talk, 2025, April. 22).



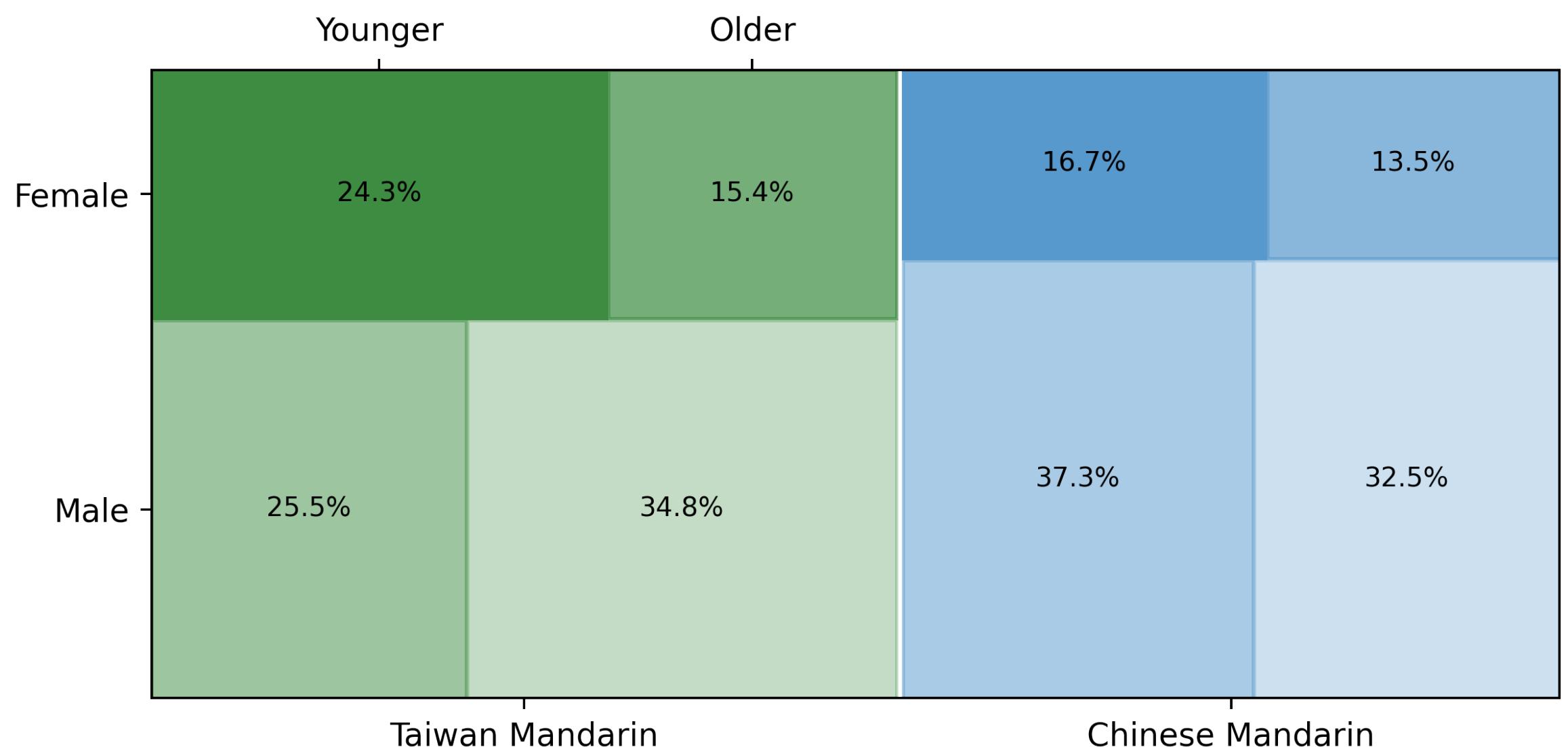
Three pro-Taiwan content creators discussing their views on marriage (范琪斐的美國時間, 2025, Apr. 16).



# Methods

## Social factor labeling

- Gender & age as control variables were automatically labeled through speech recognition:
  - Gender: Female vs. male
  - Age: 20-39, 40-59
  - A pretrained demographic speech recognition model <sup>(Burkhardt et al., 2023)</sup> based on Wav2Vec2 <sup>(Baevski et al., 2020)</sup> was used.
  - To enhance the model's accuracy, the model was further finetuned through active learning with 100 iterations, judged by the first author.





# Methods

## Statistical analysis

- To account for both levels of classifier specificity (i.e., general vs. specific & continuous PMI), a multivariate Bayesian hierarchical model was fitted:
  - Two linked components:
    - General vs. specific (Bernoulli distribution)
    - Continuous PMI value (Gaussian distribution)
  - Random intercepts for video identity & noun
- The marginal effects of predicted classifier specificity were examined by computing the expected PMI, weighted by each observation's model-predicted probability of using a specific (vs. general) classifier.

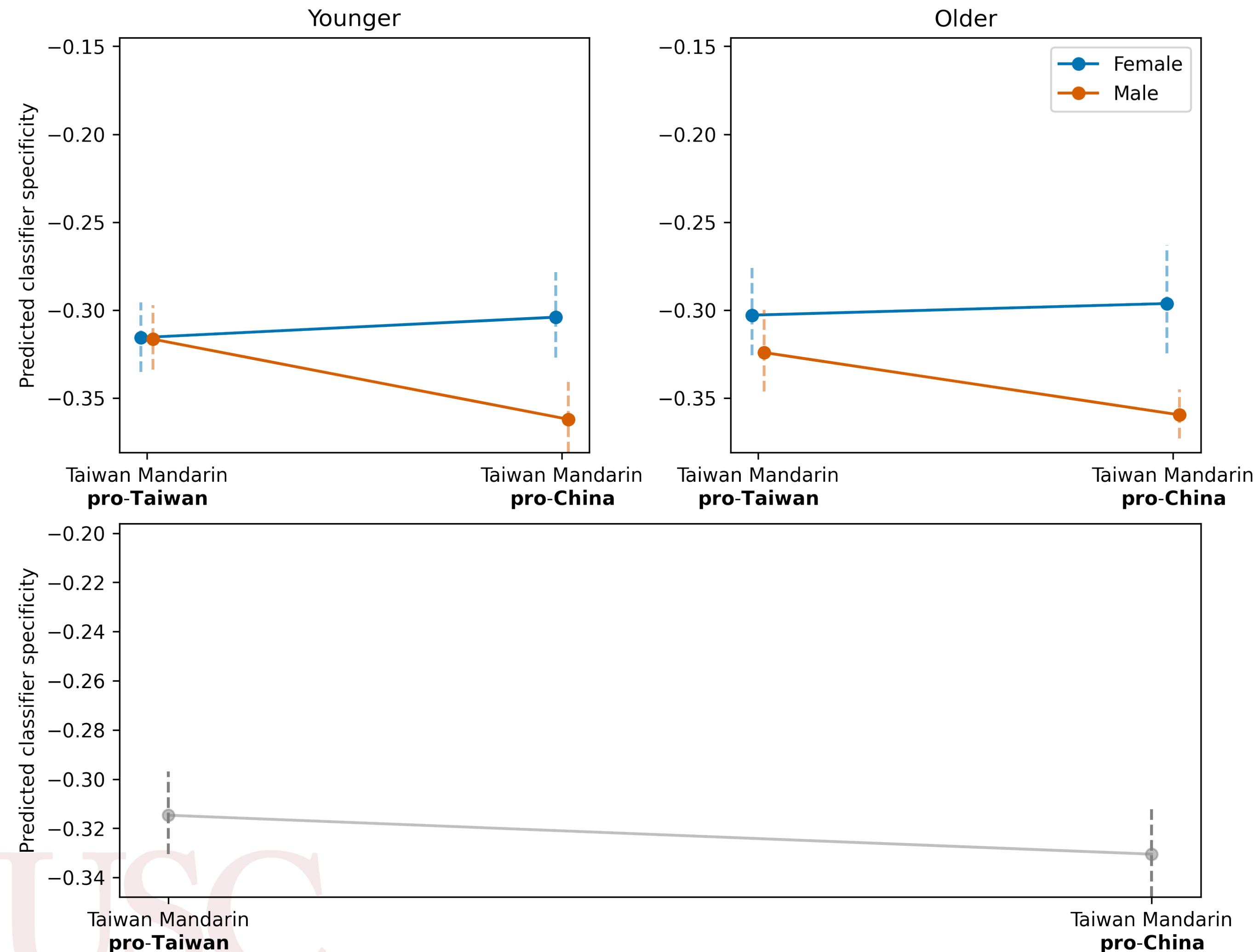
Predicted classifier specificity =

$$PMI_{specific} \times P(specific) + PMI_{general} \times (1 - P(specific))$$



# Results

## Pro-Taiwan vs. Pro-China



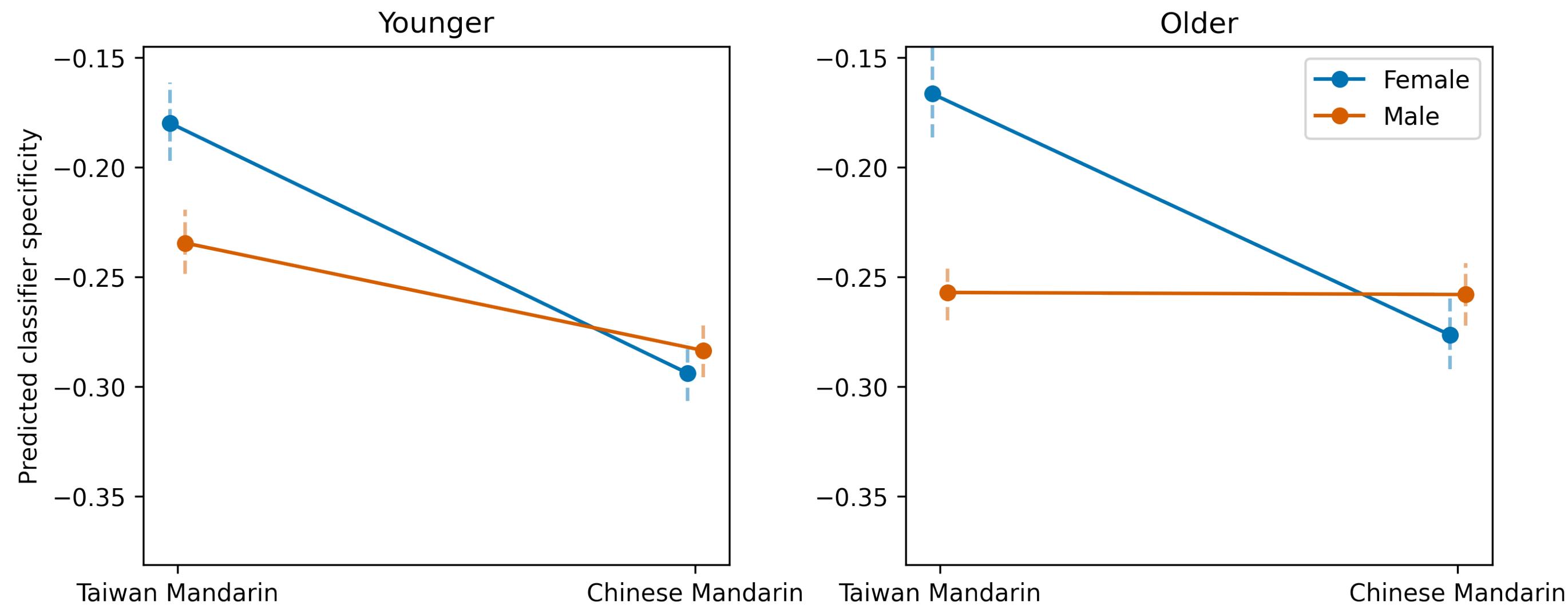
- **Women showed greater classifier specificity** than men.
  - This difference was greater in **pro-China** speakers.
- **Younger** speakers showed **greater classifier specificity**.
- **Pro-Taiwan** Taiwan Mandarin speakers showed **greater classifier specificity** in their production than their **pro-China** counterparts.



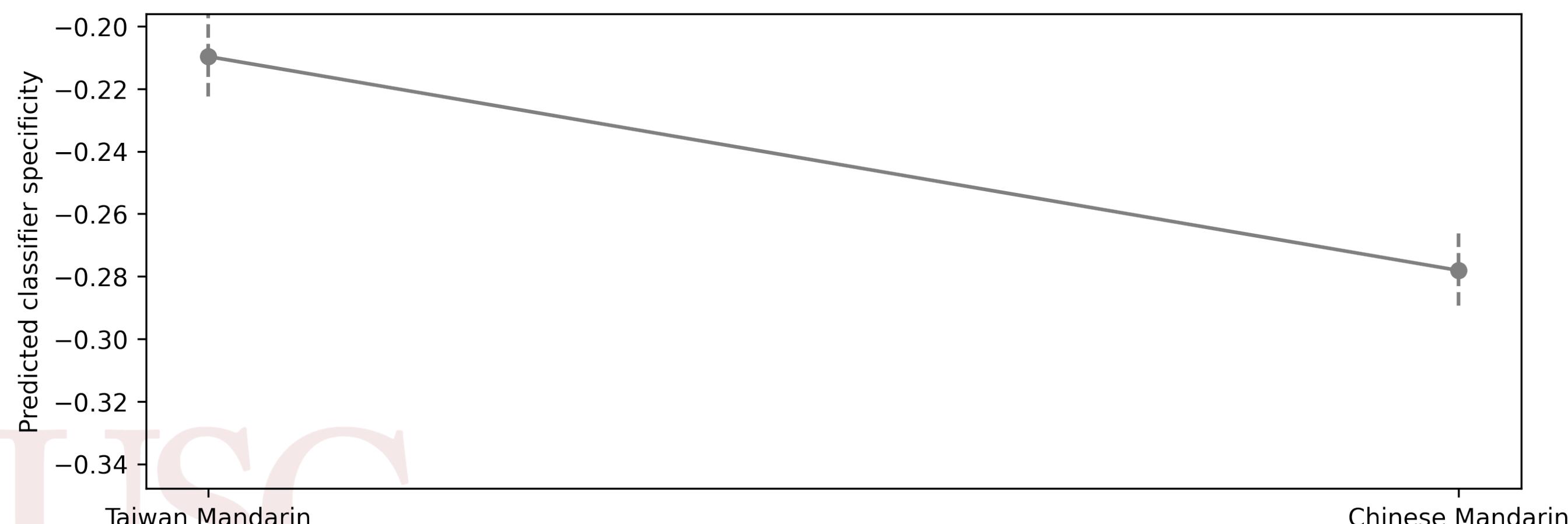


# Results

## Taiwan Mandarin vs. Chinese Mandarin



- In Chinese Mandarin,
  - Men showed **greater classifier specificity** than women.
  - Older speakers showed **greater classifier specificity**.
- **Taiwan Mandarin** speakers, in general, showed **greater classifier specificity** than **Chinese Mandarin** speakers.

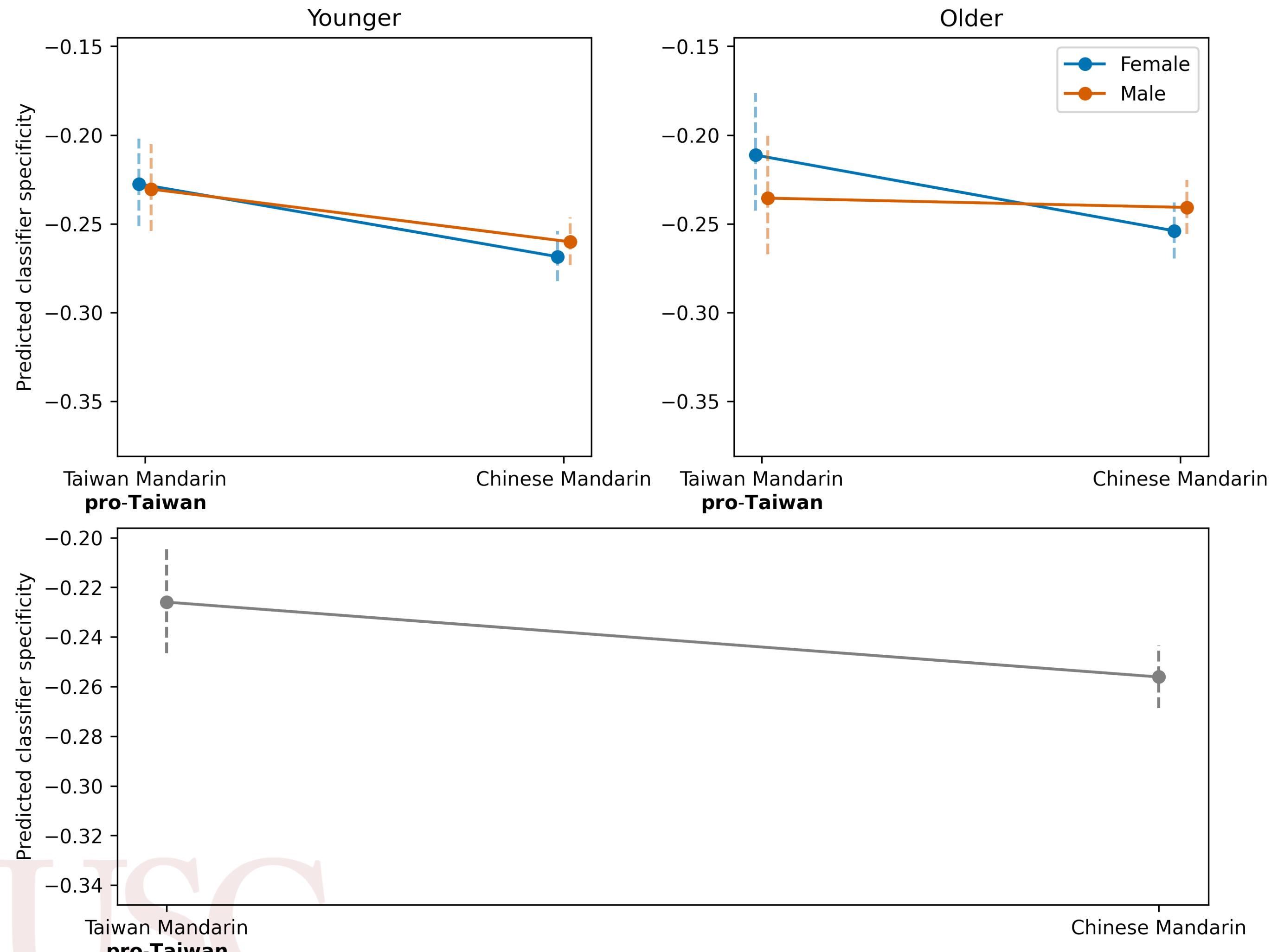


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# Results

## Taiwan Mandarin (pro-Taiwan) vs. Chinese Mandarin



- When compared separately, **both pro-Taiwan & pro-China Taiwan Mandarin speakers showed greater classifier specificity than Chinese Mandarin speakers.**

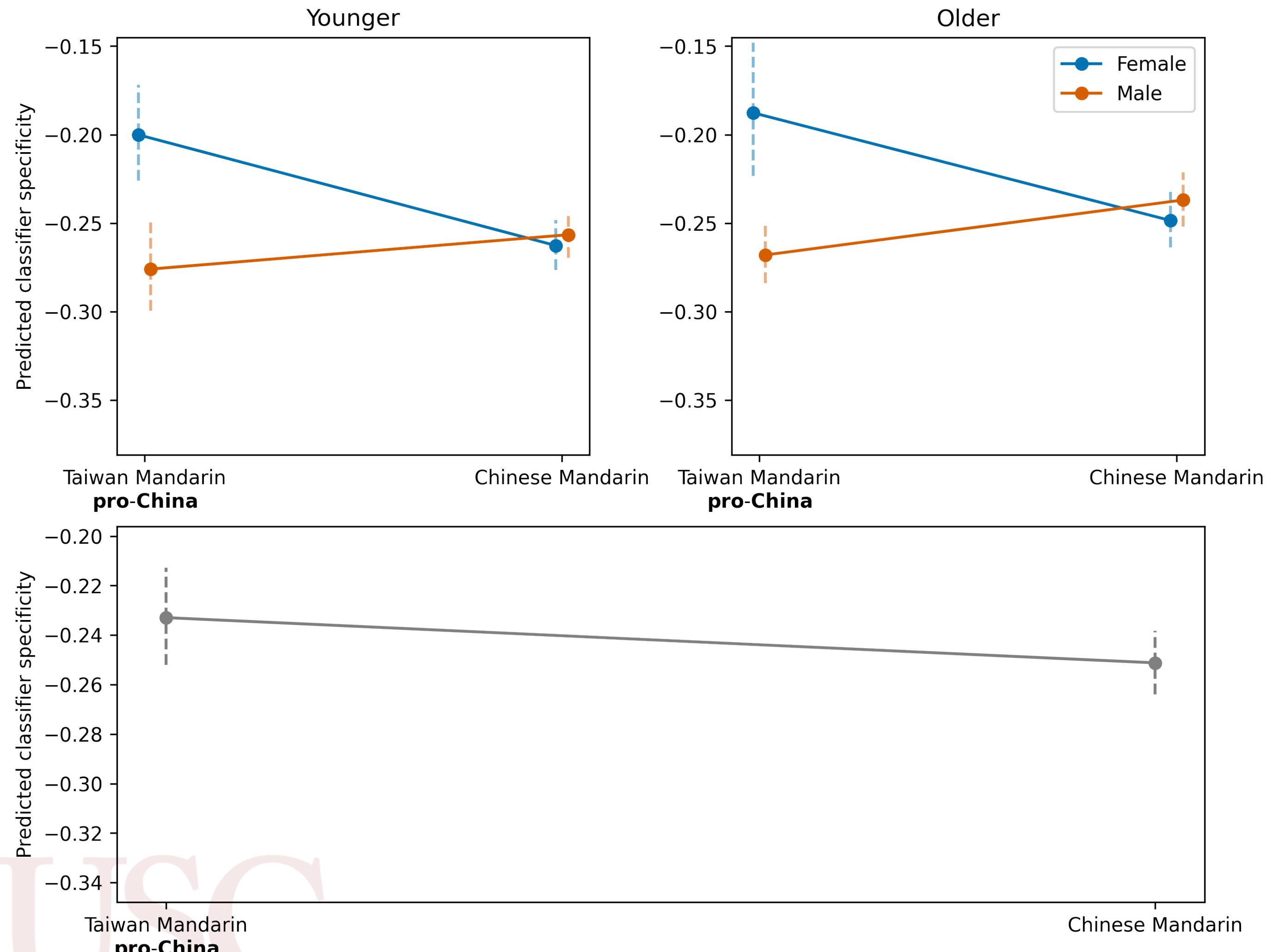


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# Results

## Taiwan Mandarin (pro-China) vs. Chinese Mandarin



- When compared separately, **both pro-Taiwan & pro-China Taiwan Mandarin speakers showed greater classifier specificity than Chinese Mandarin speakers.**



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# Discussion

## The political indexicality of classifier specificity

- Classifier specificity:
  - Taiwan Mandarin (pro-Taiwan) > Taiwan Mandarin (pro-China) > Chinese Mandarin
  - The greater classifier specificity among pro-Taiwan speakers than pro-China speakers suggests the political indexicality of classifier specificity.
  - Similar directionalities were observed b/t pro-Taiwan ~ pro-China & Taiwan Mandarin ~ Chinese Mandarin speakers.
    - Variety differences are likely the target.



# Discussion

## Female & young speakers as potential change leaders

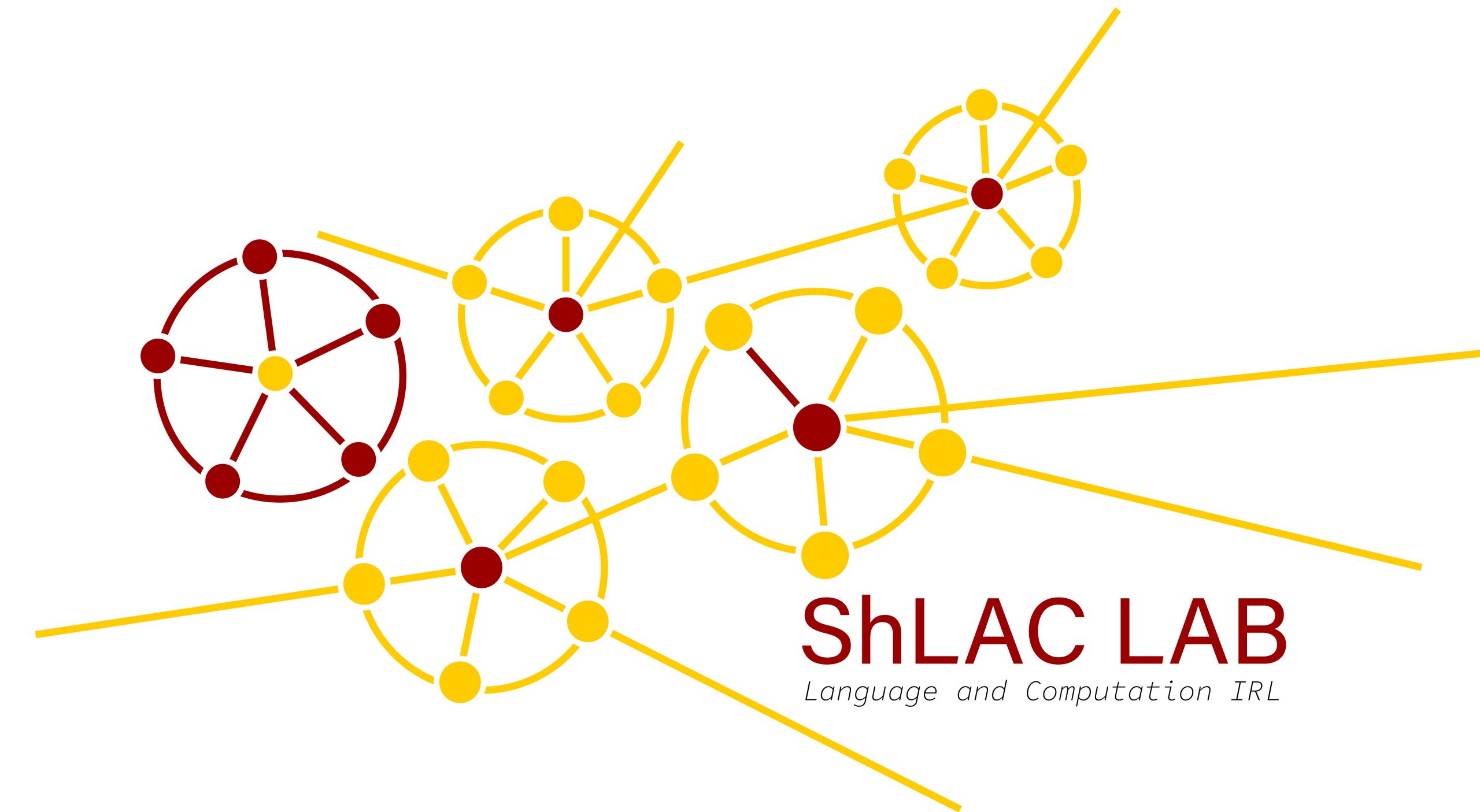
- Within both Taiwan Mandarin & Chinese Mandarin, female & young speakers were aligned (both using either the more or less specific classifiers).
- A unified account could suggest they are change leaders in both languages, w/ opposite directions.



# Conclusion

- This study examines the morphosyntactic aspects of political indexicality.
  - Previous studies focused on **lexical and phonetic** variables.
  - Few studies have shown the same politicizability in nuanced **morphosyntactic** variables as classifier specificity.
- We show that the political indexicality of classifier specificity likely exists across the political identity of pro-Taiwan & pro-China Taiwan Mandarin speakers.
- Such indexicality is likely targeting the variety differences b/t Taiwan Mandarin & Chinese Mandarin.

# Thank you!

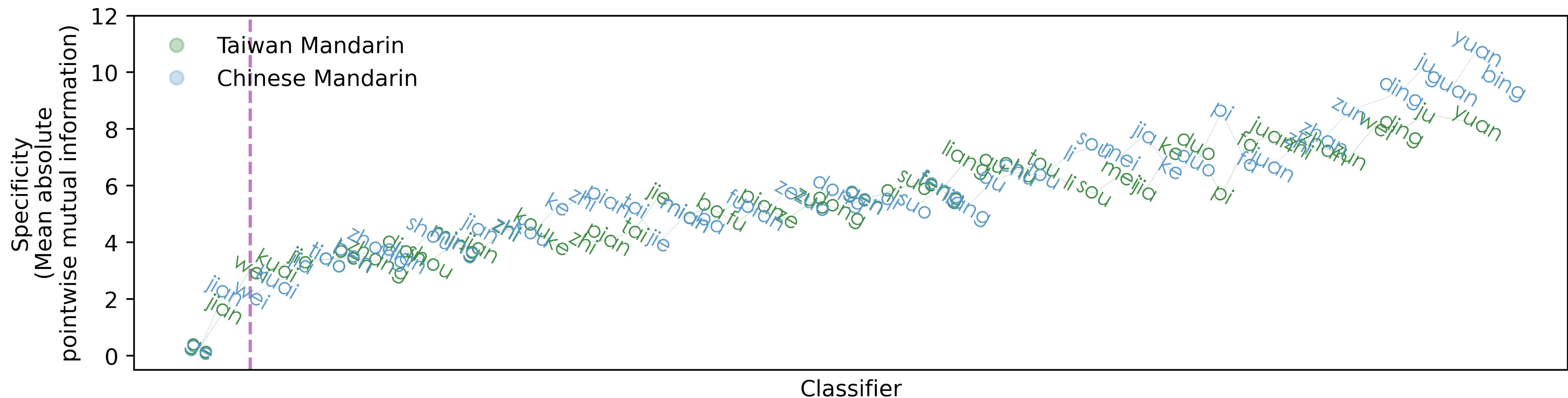


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# PMI distribution





# Discussion

## Gender differences

- Assuming specific classifiers are more formal, the observed greater classifier specificity in female speakers in **Taiwan Mandarin** is in alignment w/ the widely attested gender effects on variation, where female speakers tend to use the more formal variants.
- The weaker gender differences in **pro-Taiwan Taiwan Mandarin** speakers could potentially be due to the generally stronger liberalism among **pro-Taiwan Taiwanese**.
- This account does not explain the reversed gender effects in **Chinese Mandarin**.



# Discussion

## Age differences

- The observed greater classifier specificity in older speakers in **Chinese Mandarin** is also in alignment w/ the widely attested age effects on variation.
- The reversed age effects (younger speakers showing greater specificity) could be due to the nature of **Taiwan Mandarin**:
  - Her (2009) argues that **Taiwan Mandarin** is a creole influenced by Beijing Mandarin (in the 1940s) & the other Chinese languages (mainly Taiwan Southern Min).
  - The older speakers in this study fall into the first generation who speak this newborn creole. → The regularization of **Taiwan Mandarin** may still be in progress for these speakers.