

The effect of linguistic experience on the role of prosodic cues in categorizing Singlish



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How do Singaporean and American listeners categorize Singlish?

Background

- Recent approaches to categorization focus on its context-dependent and ad hoc nature [1]
- Early linguistic experience improves accuracy at identifying American English dialects [2]
- Studies primarily focus on segmental cues; different types of acoustic information are packaged during categorization
- Investigation of prosodic cues helps inform how we can understand “familiarity”

Present Study:

- Singlish: colloquial variety of English used in Singapore
- Singaporean listeners with linguistic experience (‘SG’, Exp 1) and American listeners with no linguistic experience (‘AM’, Exp 2)

Methods

Speeded Forced-Choice Task:

- 40 natural-speech stimuli
- 10 Chinese Singaporean talkers (5 male, 5 female)
- 6 blocks x 20 trials; random matchups
- In each trial: 5ms gap, 2s to respond



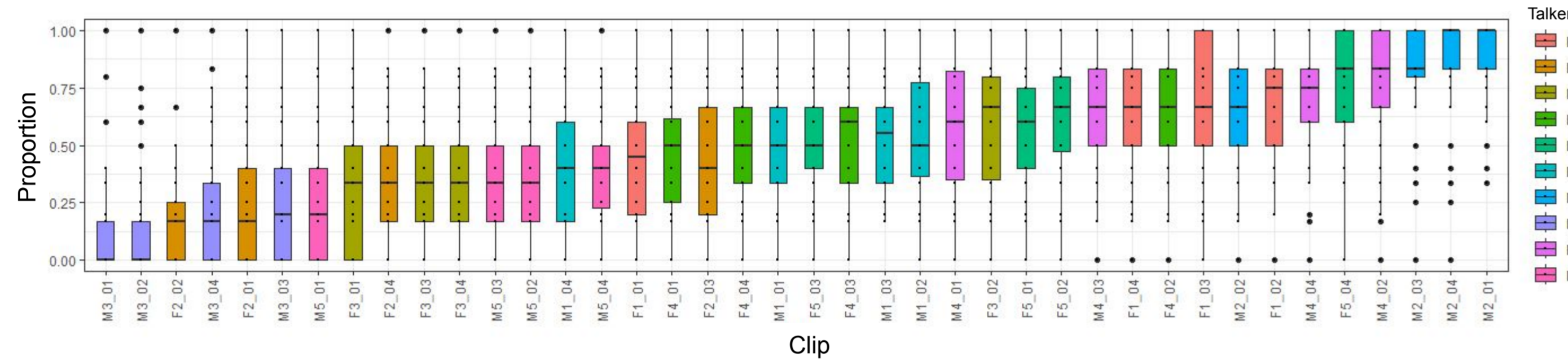
Post-Task Questionnaire:

- Demographic background
- Language attitudes
- “List three attributes to describe the speakers who sounded more Singlish.”

Experiment 1 (n=132)

How do Singaporean listeners (SG) categorize Singlish?

Proportion of “More Singlish” responses for SG

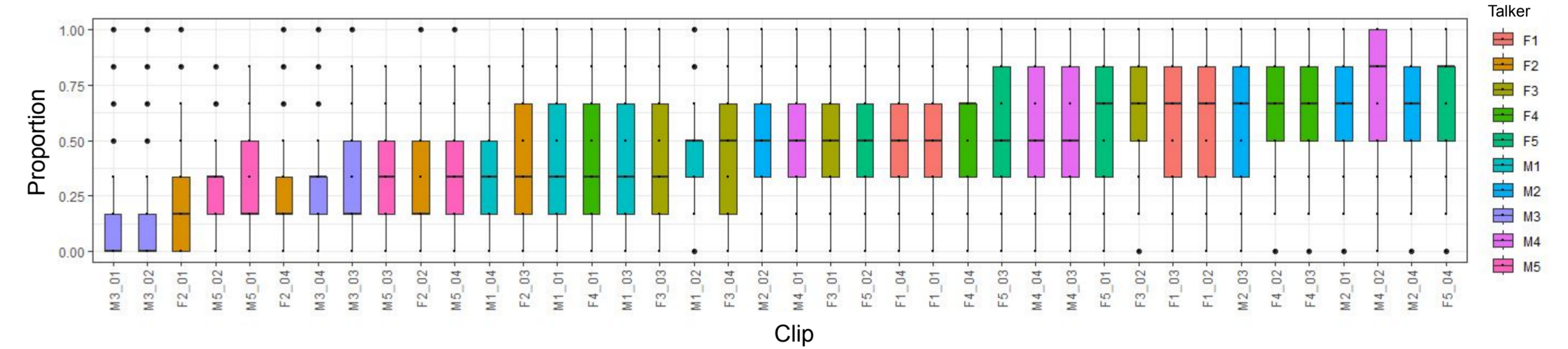


- ‘More Singlish’ responses associated with **higher pitch PVI** ($\beta=0.19, p=.037$), **lower pitch variance** ($\beta=-0.20, p=.023$), and **faster articulation rate** ($\beta=0.21, p=.043$)

Experiment 2 (n=137)

How do American listeners (AM) categorize Singlish?

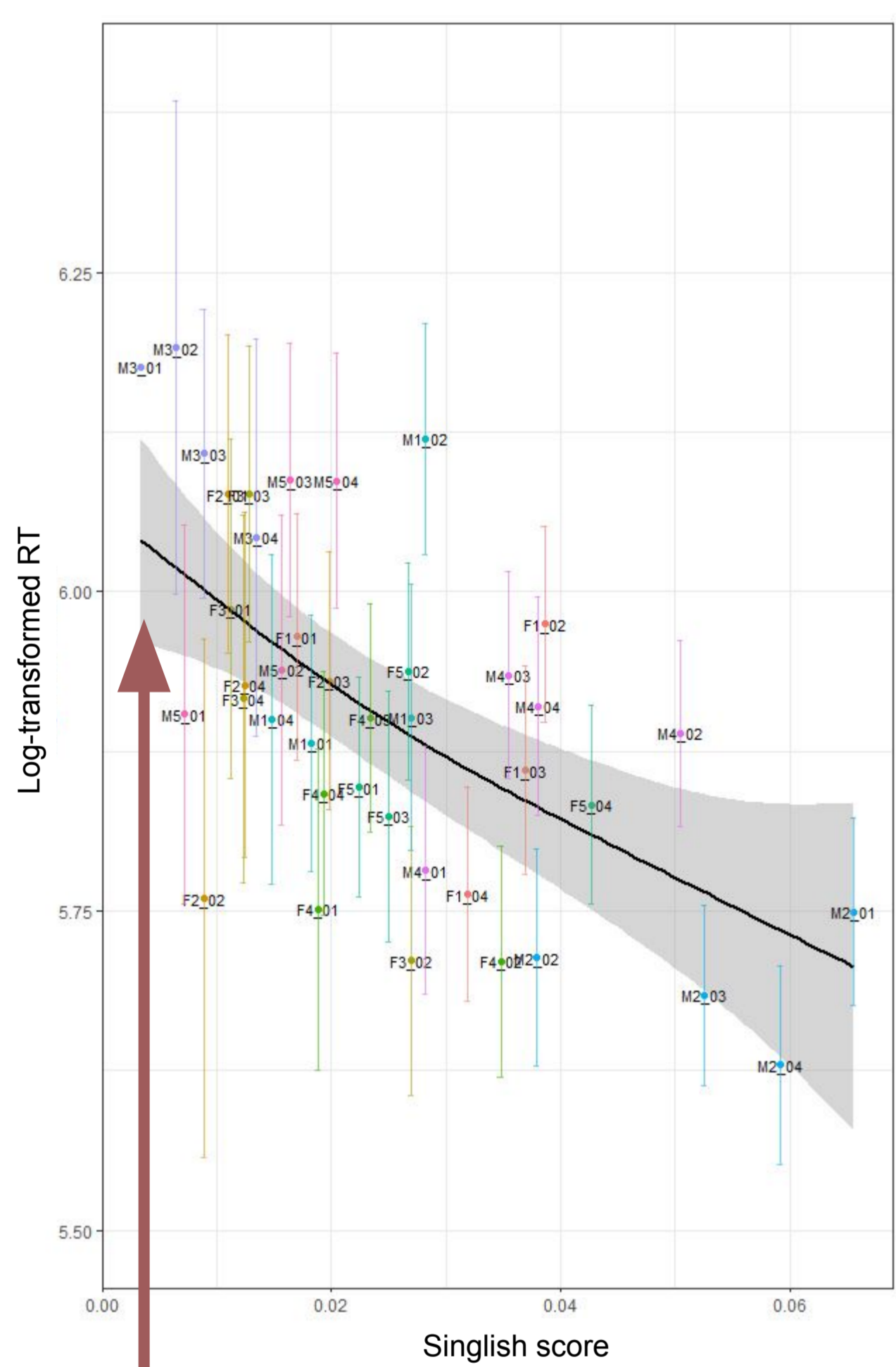
Proportion of “More Singlish” responses for AM



- Told that Singlish is a type of English spoken with friends
- ‘More Singlish’ responses only associated **faster articulation rate** ($\beta=0.18, p=.021$)

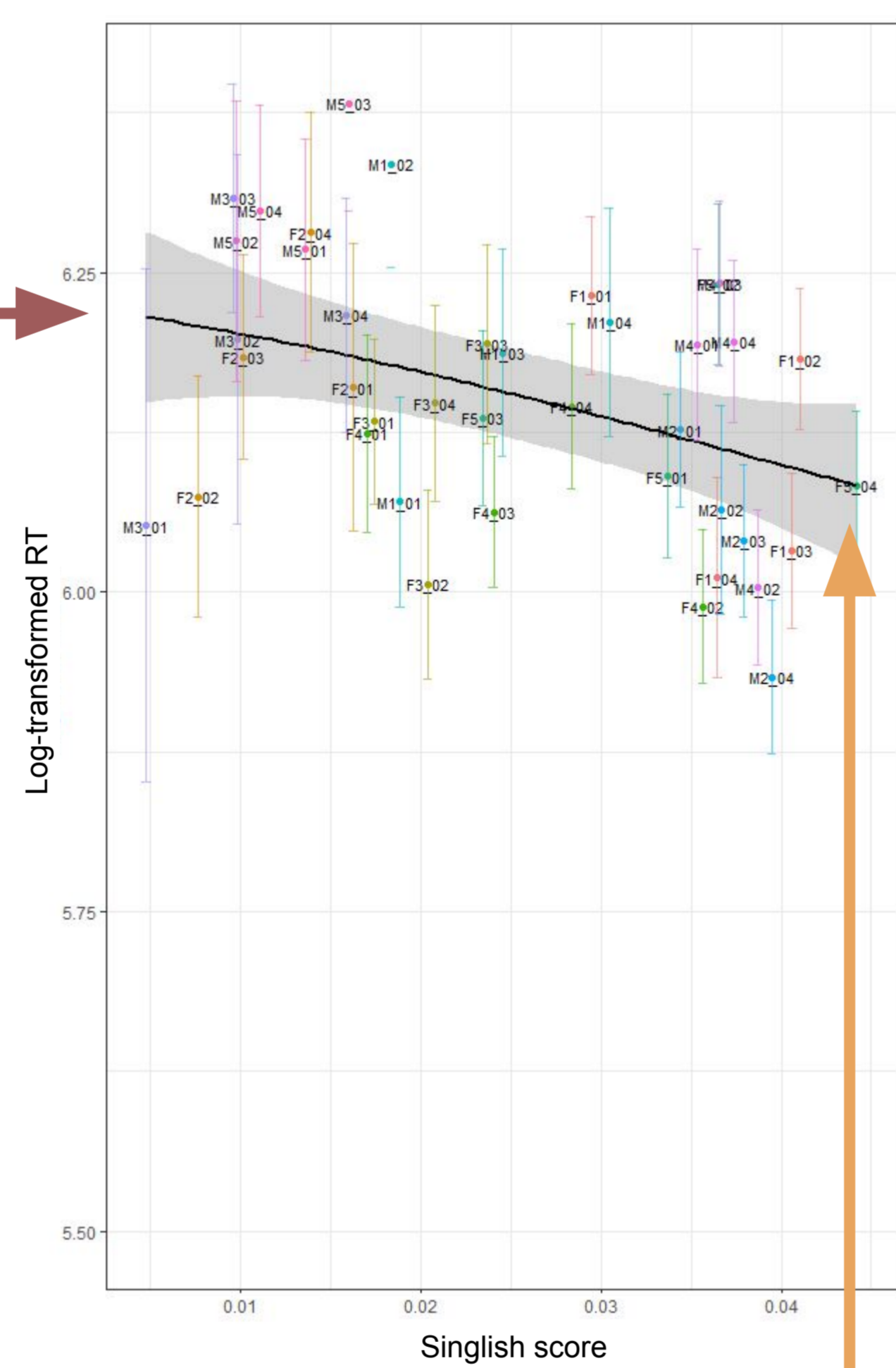
RT: ‘More Singlish’ clips

EXP 1: LogRT vs Singlish score for More Singlish responses for SG



SG faster than AM
 $t(26218)=-26.7, p<.001$
 SG: $M=5.87, SD=0.95$; AM: $M=6.14, SD=0.73$

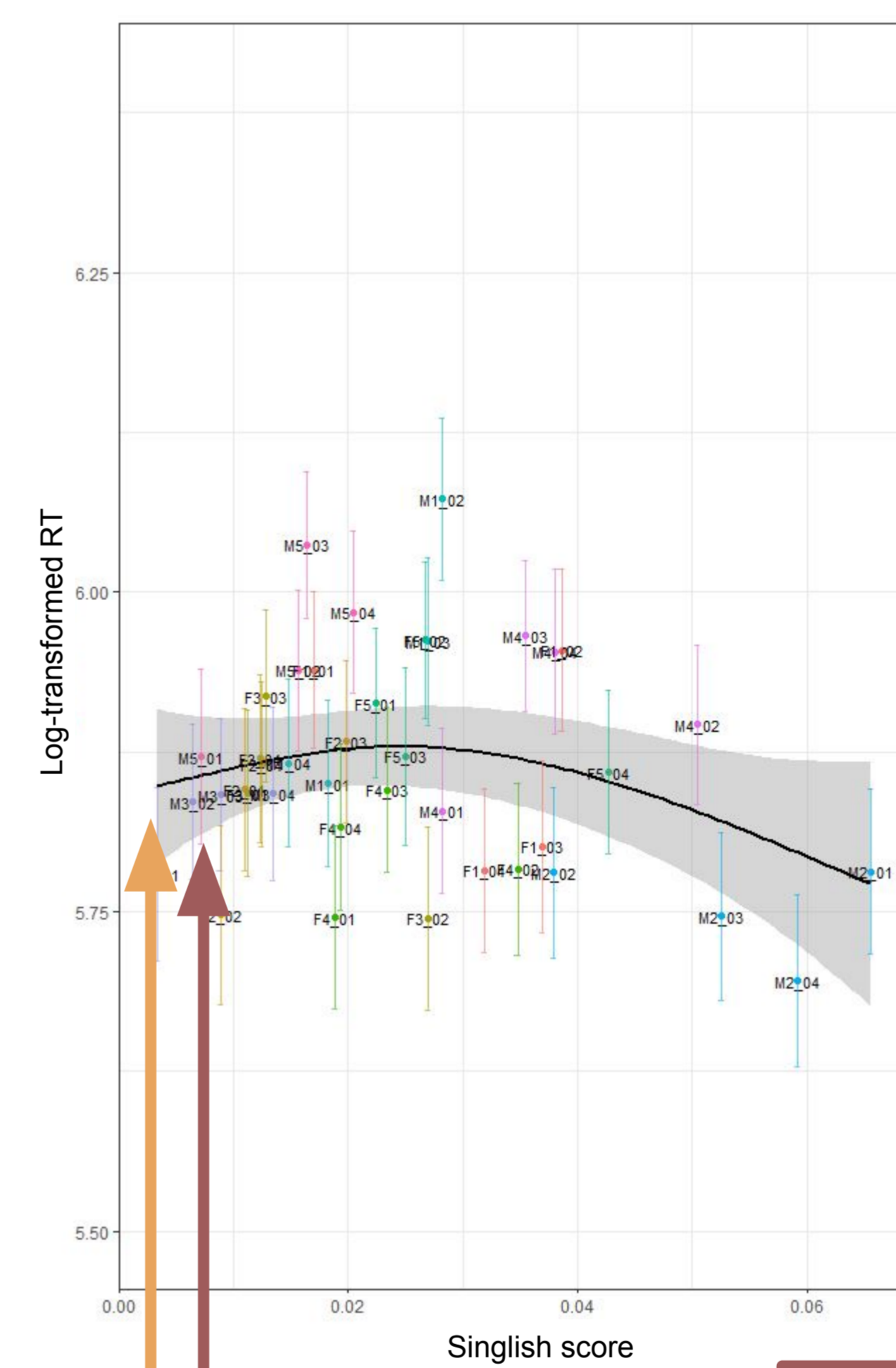
EXP 2: LogRT vs Singlish score for More Singlish responses for AM



Both SG and AM faster to categorize higher Singlish score clips as ‘More Singlish’
 SG: $\beta=-4.58, p=.005$; AM: $\beta=-4.24, p=.025$

RT: All clips

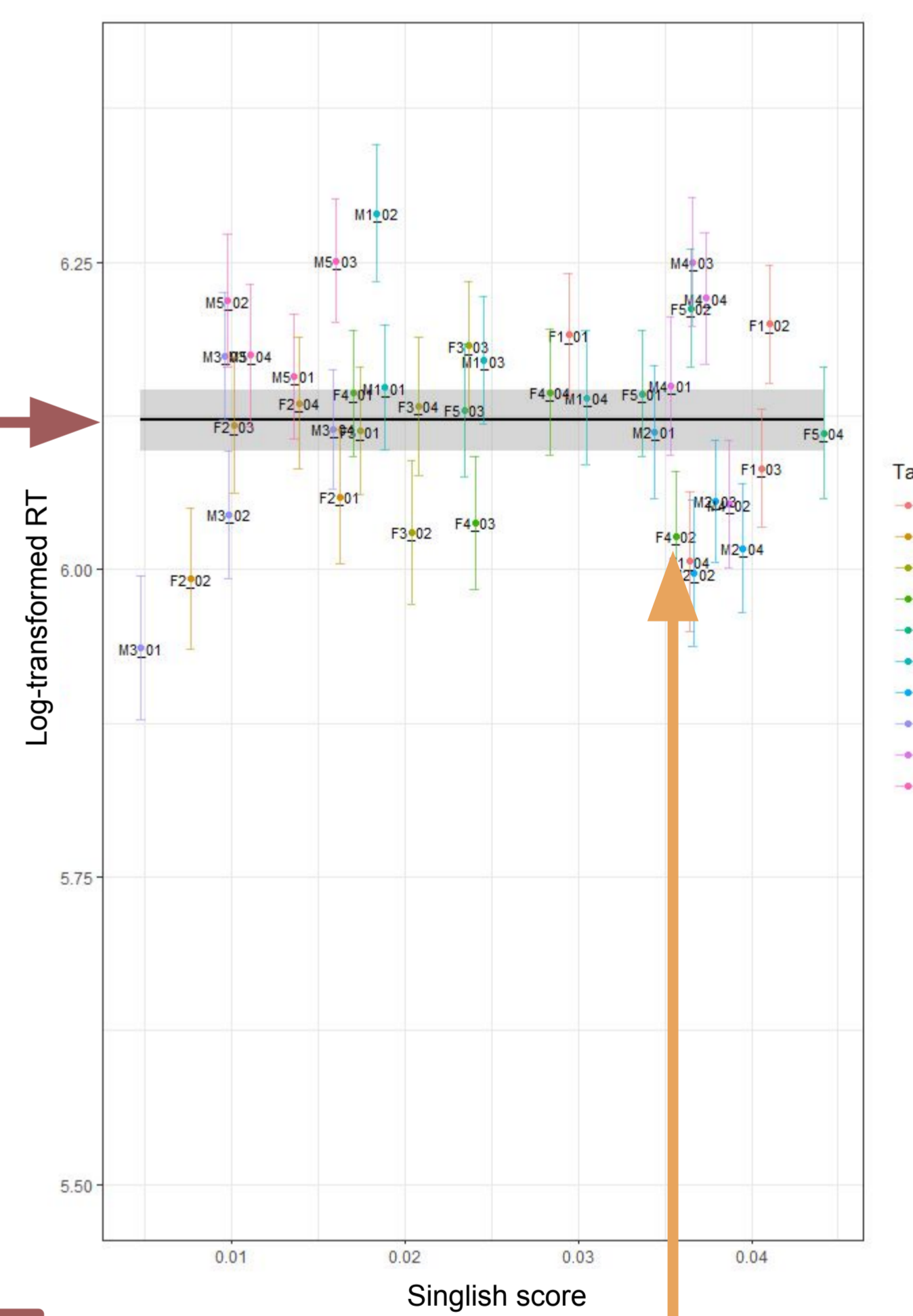
EXP 1: LogRT vs Singlish score for all responses for SG



SG: Emergent group without explicit label

SG faster than AM for all clips

EXP 2: LogRT vs Singlish score for all responses for AM



AM: No difference in trial completion time regardless of Singlish score

Discussion

Typicality Effects

- Overall typicality effect [3] suggests that dialect categorization is similar to other types of categorization
- Typicality effect for both groups suggests that listeners can categorize an unfamiliar dialect given a single point of comparison
- Stronger typicality effect for Singaporean listeners associated with more gradient categorizations and multiple acoustic cues

Attention to Prosodic Cues

- Local and global pitch variability patterns align with proposal of the AP in SgE [4]
- American listeners’ use of speech rate suggests that it may be an easier cue to attend to when categorizing unfamiliar dialects
- Relationship between fast speech rate and notions of informality, non-standardness, etc. may be consistent across communities

Emergent Groups

- American listeners’ lack of certainty in categorizing high Singlish score clips suggests no emergent group
- Not-‘More Singlish’ group for Singaporean listeners suggests emergent groups leveraged even without explicit labels
- Emergent categories only constructed in context when categorizing familiar dialects

Takeaways

- Unfamiliar dialects can be categorized with just a single point of comparison, drawing on association between speech rate and social meanings related to formality and standardness
- Experience allows listeners to make more gradient categorizations that leverage more prosodic cues and are associated with stronger typicality effects
- Highlights ad hoc, context-dependent nature of categorization

References

1. Casasanto, D., & Lupyan, G. (2015). All concepts are ad hoc concepts. In E. Margolis & S. Laurence (Eds.), *The conceptual mind: New directions in the study of concepts* (pp. 543–566). Cambridge, MA: MIT Press. 2. Clopper, C. G., & Pisoni, D. B. (2004). Homebodies and army brats: Some effects of early linguistic experience and residential history on dialect categorization. *Language Variation and Change*, 16(1), 31–48. 3. Casey, P. J. (1992). A reexamination of the roles of typicality and category dominance in verifying category membership. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 18(4), 823–834. 4. Chong, A. J. (2012). A preliminary model of Singaporean English intonational phonology. *UCLA Working Papers in Phonetics*, 111, 41–62. 3.