

Selective attention to the mouth of signing faces

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Introduction

Infants show a U-shaped scanning pattern of talking faces: **preference to the mouth increases**, then **decreases with age**¹

Bilinguals (BIL) look longer to the mouth than **monolinguals (MON)** ^{2, 3}

Sign language is predominantly **visual**

Research question

Will 8- and 12-month-old MON and BIL infants look similarly to a person signing?

Methods

Stimuli



Participants

Age	Monolinguals	Bilinguals
8 mo	13	14
12 mo	17	11

Procedure

Watch short videos on a 24" screen in blocks of 5 in each language (BSL/JSL) (max. 11 min)
Gaze registered using eye-tracker

References

- [1] Lewkowicz, D. J., & Hansen-Tift, A. M. (2012). Infants deploy selective attention to the mouth of a talking face when learning speech. *Proceedings of the National Academy of Sciences*, 109(5), 1431–1436. <https://doi.org/10.1073/pnas.1114783109>
- [2] Ayneto, A., & Sebastian-Galles, N. (2017). The influence of bilingualism on the preference for the mouth region of dynamic faces. *Developmental Science*. <https://doi.org/10.1111/desc.12446>
- [3] Pons, F., Bosch, L., & Lewkowicz, D. J. (2015). Bilingualism Modulates Infants' Selective Attention to the Mouth of a Talking Face. *Psychological Science*. <https://doi.org/10.1177/0956797614568320>



Poster, materials and code here!



Data analysis

Generalized Bayesian multilevel model in brms

Zero-inflated Beta link distribution

$ptlt \sim aoi * age_group * lang_profile + (1 + aoi | id)$

ptlt: proportion of total looking time

aoi: Area of interest (eyes vs. mouth)

age_group: 8 months vs. 12 months

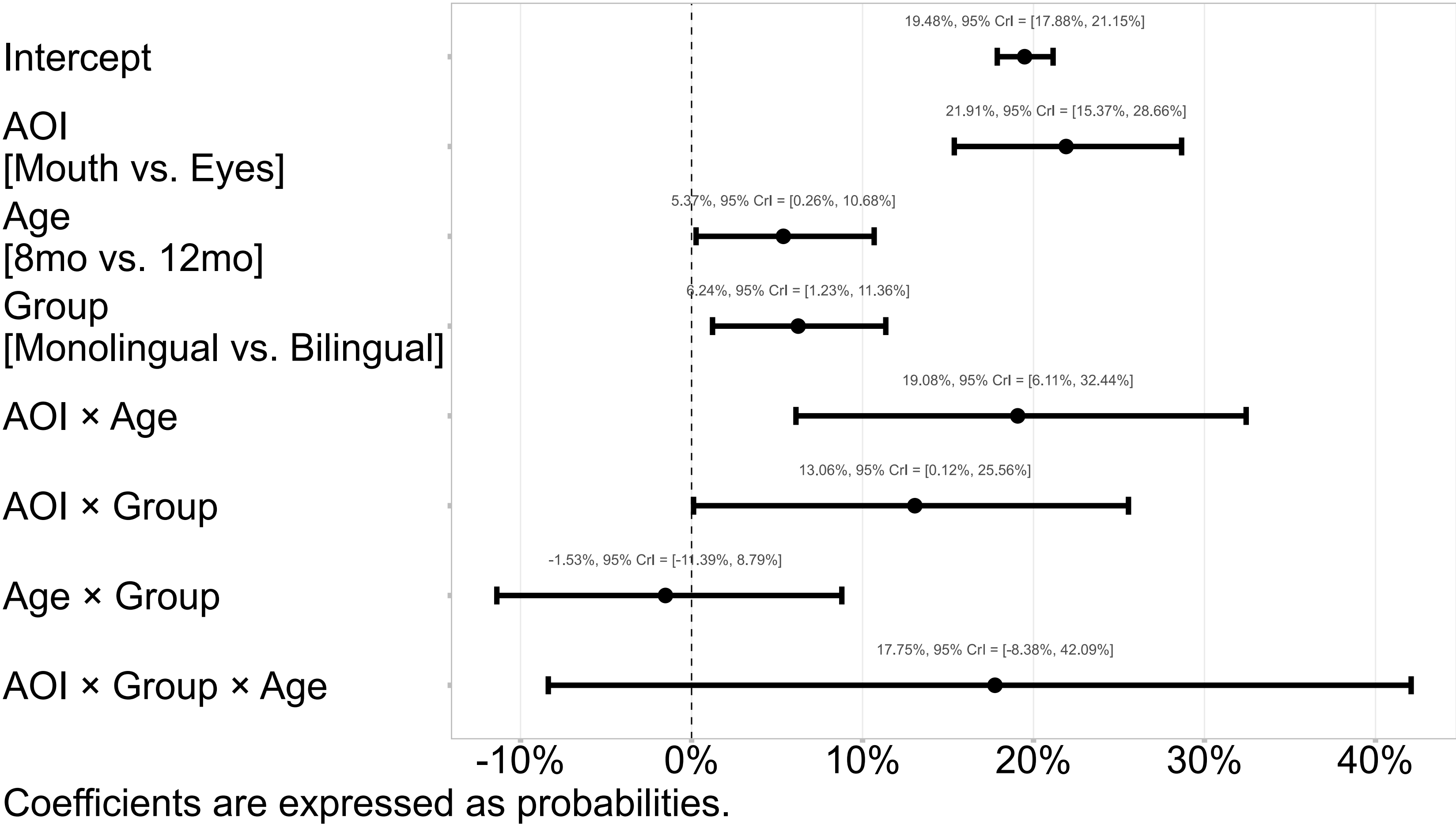
lang_profile: Monolinguals vs. Bilinguals

id: participant index

Results

Model outputs

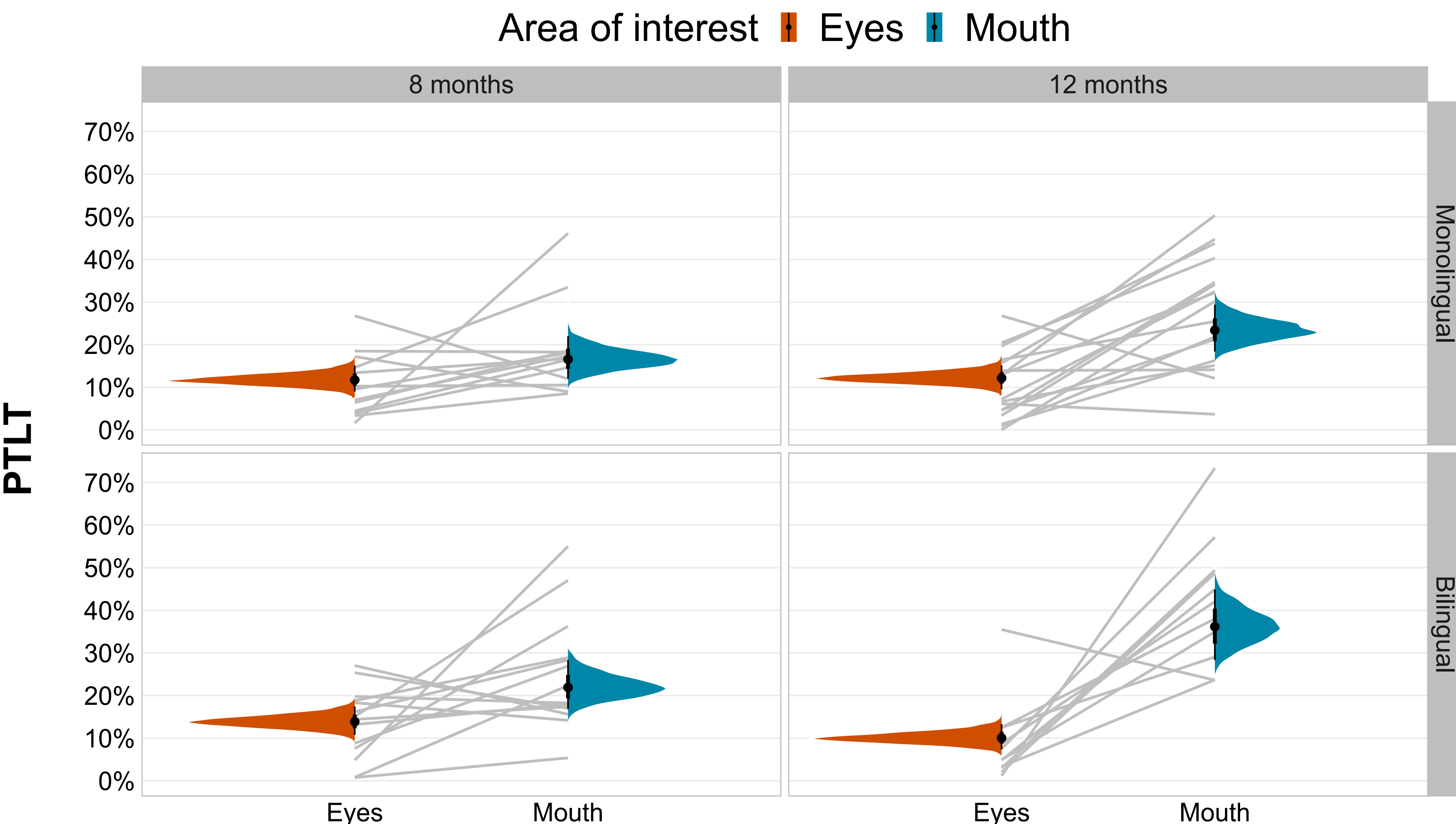
Posterior mean and 95% credible interval



Coefficients are expressed as probabilities.

PTLT marginal means by AOI, age group, and language profile

Posterior mean and 95% credible interval



Conclusions

Mouth preference in all groups, which increases with age
No shift back to eye preference at 12 mo: sign language perceived as non-native speech?